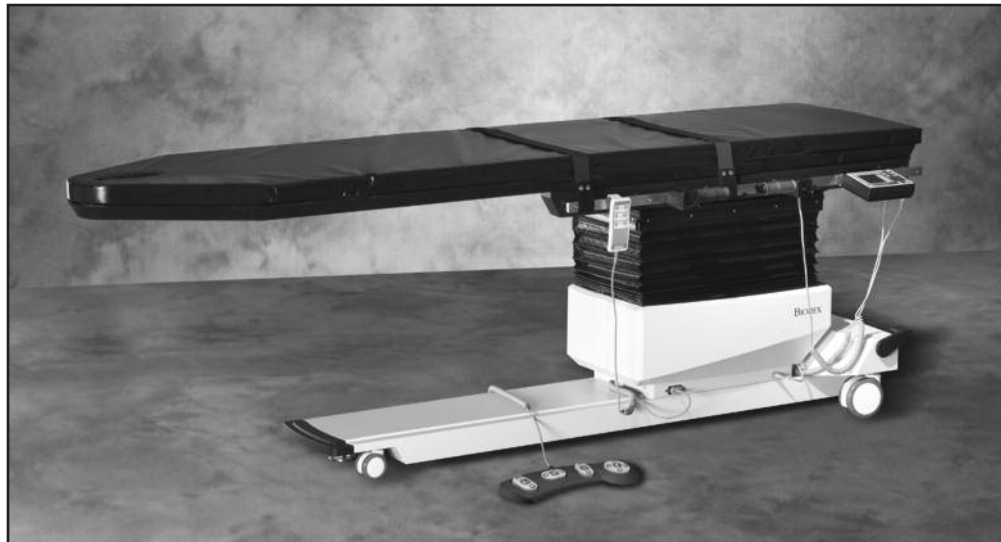


# SURGICAL C-ARM TABLE

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## SERVICE MANUAL

058-840  
058-845



058-840

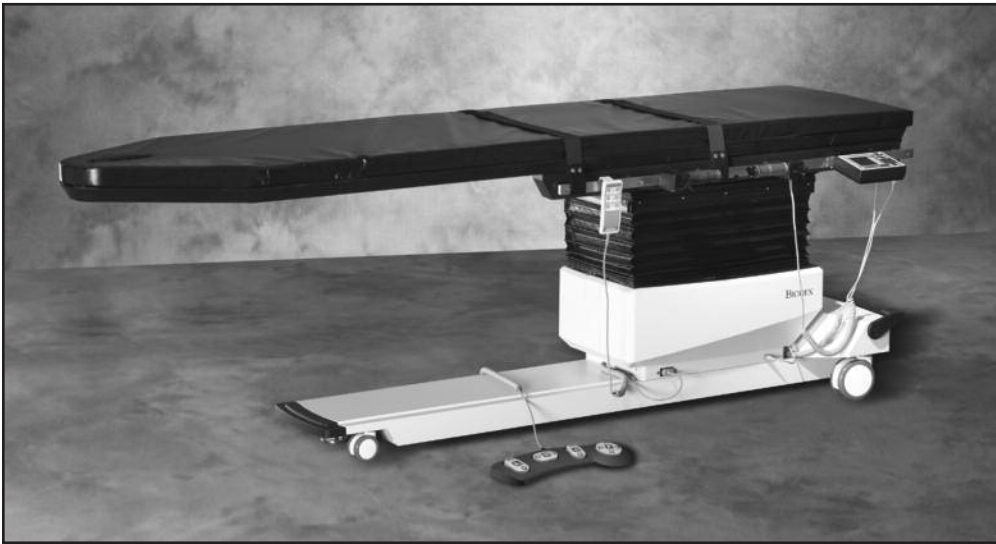
# BIODEX

Biomed Medical Systems, Inc.

20 Ramsay Road, Shirley, New York, 11967-4704, Tel: 800-224-6339 (Int'l 631-924-9000), Fax: 631-924-9241, Email: [info@biomed.com](mailto:info@biomed.com), [www.biomed.com](http://www.biomed.com)

# SURGICAL C-ARM TABLE

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058-840

**This manual covers installation and operation procedures  
for the following product:**

#058-840	Table, Surgical C-Arm - 840, 115 VAC
#058-845	Table, Surgical C-Arm - 840, 230 VAC

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3. Y MOVEMENT SOLENOID REPLACEMENT, 058-840 (LATERAL)
4. LIFT ACTUATOR REPLACEMENT, 058-840
5. LATERAL TILT ACTUATOR REPLACEMENT, 058-840
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9. TILT SENSOR BOARD REMOVAL AND REPLACEMENT, 058-840
10. POSITION SENSING STRIP REPLACEMENT PROCEDURE, 058-840
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# 1. CONTROL MODULE REPLACEMENT, 058-840

---

*Tools Required:*  
*Phillips screwdriver*

The control module is located on the lower back panel.

1. To access the control module, remove the four larger Phillips screws securing the lower portion of the bellows to the clamshell covers. Each side has two screws located near the center of the clamshell.
2. The bellows is still secured to the top of the clamshell covers, but now it can be lifted and secured with bungee cords (see Figure 1.1). The table must be raised to its highest position to allow clearance to access and remove the controller.

*NOTE: If the table cannot be raised to the up position the covers must be removed. First remove the remaining 12 Phillips screws securing the lower portion of the bellows to the covers. Next, separate the covers by removing the four securing screws located at each end, and then slide the covers out.*

3. Remove the six screws that secure the lower back panel (see Figure 1.2). Remove the lower back panel. Slide the control module out carefully. Make sure that the connecting cables are not being damaged as you slide the box out.
4. Disconnect all cables (see Figure 1.3).
5. Remove the six nuts that secure the module to the back panel.



Figure 1.1.



Figure 1.2.



Figure 1.3.

LCD display cable connector used for reprogramming control box

AC pwr/battery

Vertical actuator

## 2. X MOVEMENT SOLENOID REPLACEMENT, 058-840 (HEAD-TO-TOE)

---

### *Tools Required:*

*Allen keys*

*Wire cutters*

*Socket set, standard*

*Phillips screwdriver*

### **REMOVAL**

1. Make sure the table is level before removing the solenoid assembly. The table may abruptly move when the solenoid assembly is disconnected.
2. Slide the tabletop all the way towards the back.
3. Remove the four 9/16-inch bolts, which are now accessible from the underside of the tabletop (see Figure 2.1).
4. Slide tabletop all the way forward.
5. Support the tabletop before removing the final four 9/16-inch bolts, which are accessible from the forward underside of table.
6. Remove the four remaining bolts and lift to remove tabletop.
7. The head to toe solenoid is located under the tabletop towards the back (see Figure 2.2).
8. Remove the four Phillips screws, which secure the solenoid, and unplug connector (see Figure 2.2).
9. To reinstall solenoid, reverse the above procedure.

***NOTE:** Insure proper alignment of solenoid arm to mechlock tab, which should be 90 degrees as shown in Figure 2.2.*

10. Verify proper table operation as outlined in Chapter 12, Operation/Calibration Verification.



*Figure 2.1.*



*Figure 2.2.*

### 3. Y MOVEMENT SOLENOID REPLACEMENT, 058-840 (LATERAL)

---

#### X-MECHLOCK (058-840-A040) AND Y-MECHLOCK (058-840-A030) REPLACEMENT AND CLEANING

Model 058-840 Series Tables

*Tools Required:*

*Medium Phillips screwdriver*

*9/16-inch Wrench*

*3/8-inch Wrench*

*1/2-inch Wrench*

*7/16-inch Wrench*

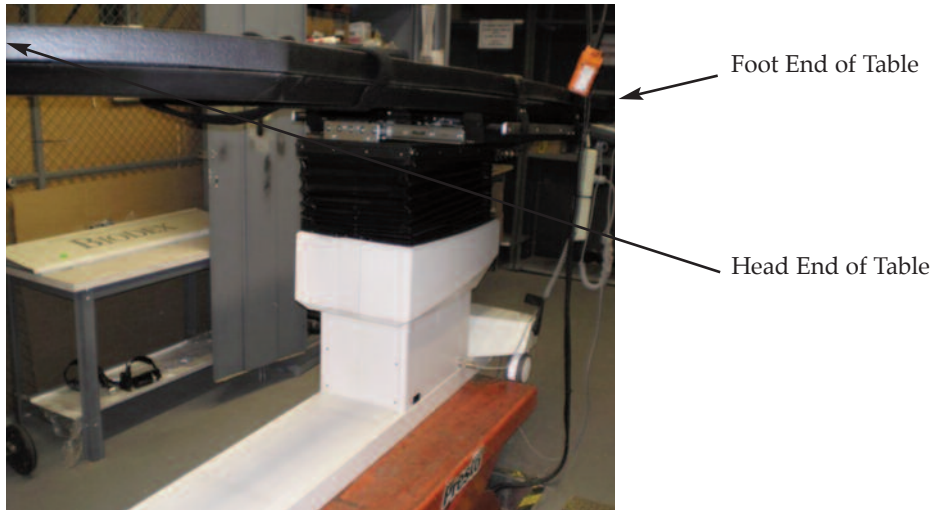
*5/32-inch Allen Key*

*3/16-inch Allen Key*

*Wire Cutter*

*C13349 Lubrication for Piston*

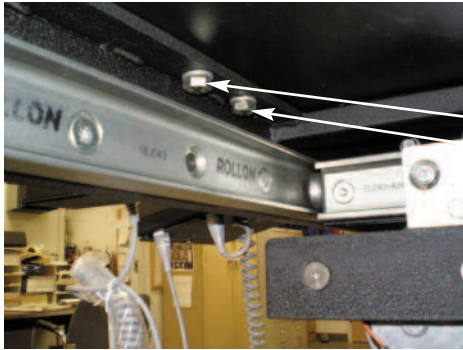
1. Level and raise the tabletop to position 10 (the highest point).



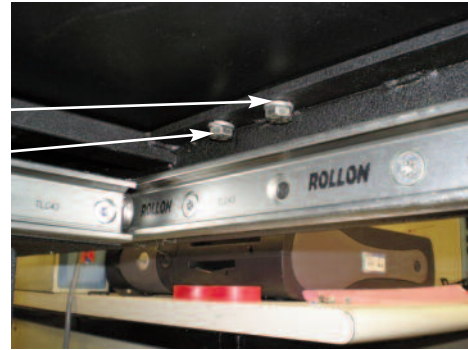
2. Remove the eight 9/16-inch Tabletop bolts with a 9/16-inch wrench. Two of the bolts do not have washers. This is to prevent the nylon wheel measuring device from getting hit by the bolts. Place some sort of weight on the foot end of the table to support it from falling.
  - a. Move the tabletop all the way to position zero on the forward and back (head end of the table) to access the four bolts.



#### Underneath Head End of Table

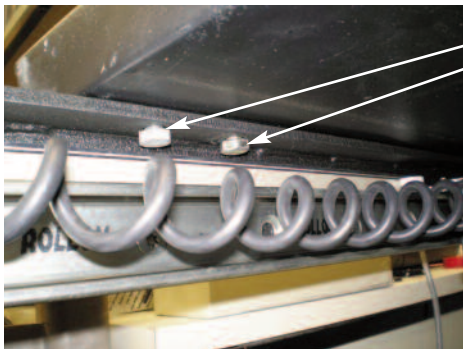


Remove four  
9/16-inch bolts  
w/Washers



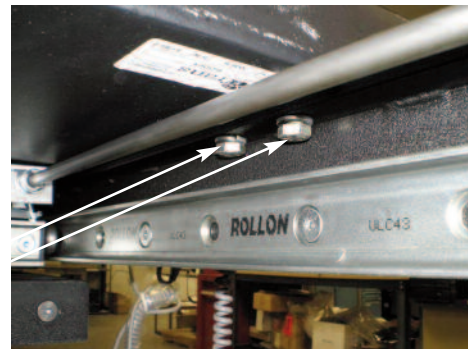
- b. Move the tabletop all the way to position 20 (foot end of the table) to access the four bolts.

#### Underneath Foot End of Table



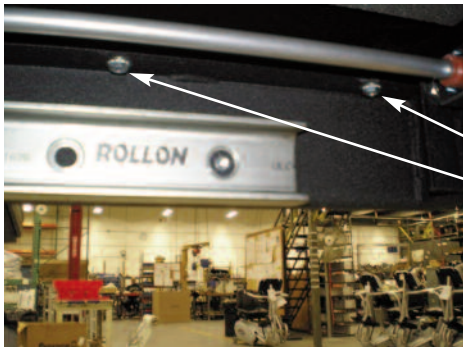
Remove two  
9/16-inch bolts  
w/o washers

Remove two  
9/16-inch bolts  
w/washers

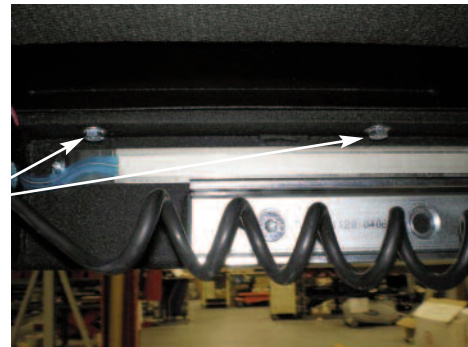


- c. Remove the four 3/8-inch tabletop extension nuts at the foot end of the table with a 3/8-inch wrench.

#### Underneath Foot End of Table

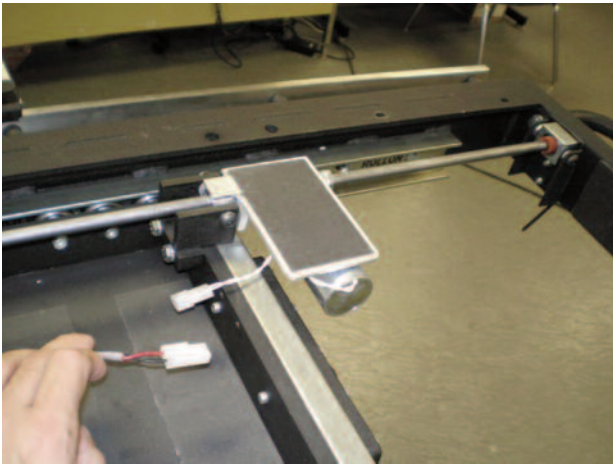


Remove four  
3/8-inch nuts  
w/washers

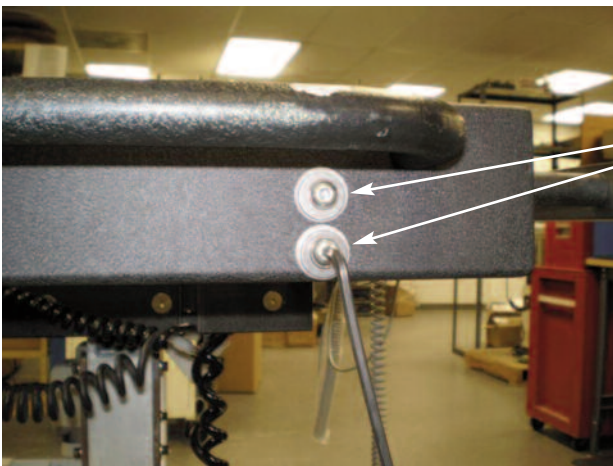


3. Unplug the table from the wall and make sure that the switch is in the OFF position. There should be no power to the control box.
4. To change out the Y-Mechlock go to step number 10. To clean the solenoid go to step 15.

- 
5. To change out the X-Mechlock unplug the wire harness connector.

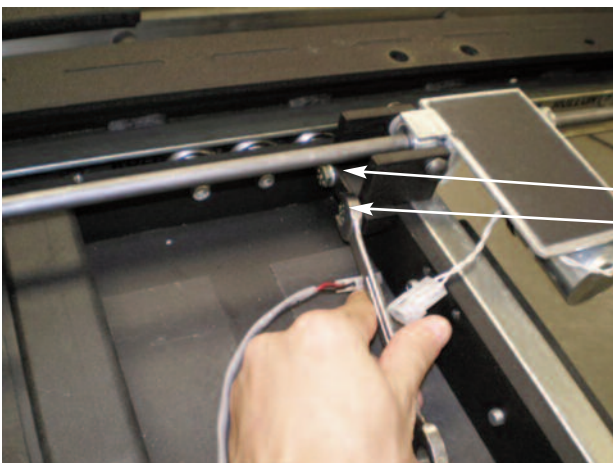


6. Remove the 5/32-inch bolts and washers with a 5/32-inch Allen Key. They are located on the outside of the foot end of the table by the handle.



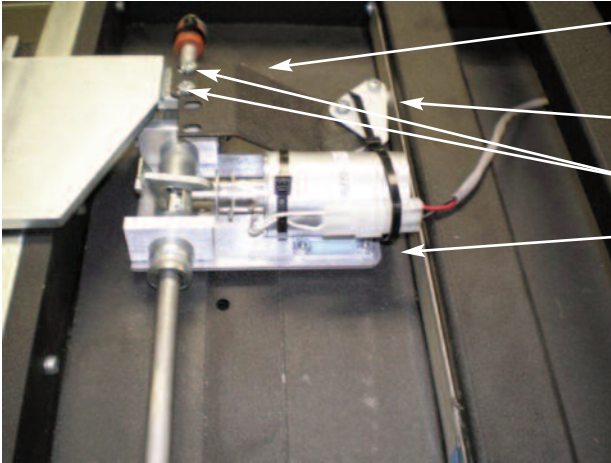
Remove two  
5/32-inch  
Allen Head Bolts  
w/washers

7. Remove the 7/16-inch bolts and washers from the inside of the table. They are next to the Mechlock itself.



Remove two  
7/16-inch bolts  
w/washers

- 
8. You should now be able to remove the broken X-Mechlock and replace it with the new one.
  9. After you have put the bolts back into place reconnect the Mechlock. Turn on the power and test for correct operation. (You shouldn't have to recalibrate the table for the X direction because the pot that measures the location was not removed from the table.)
  10. To remove the Y-Mechlock, remove the two Phillip screws that hold the bracket for the nylon wheel and remove it from the table. Cut the zip tie that holds the power connector in place with a wire cutter and disconnect the connector.



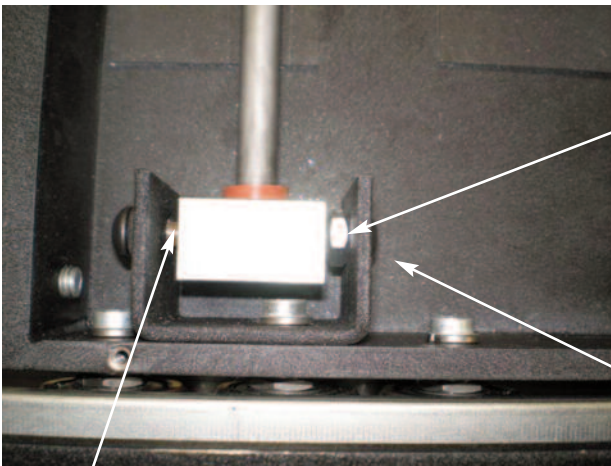
Bracket for Nylon Wheel

Nylon Wheel

Remove two Phillip Head Screws

Cut Zip Tie

11. Remove the 3/16-inch Allen Head Pivot Bolt with a Allen Key by holding the 1/2-inch nut with a 1/2-inch wrench. You should be able to slide the clevis block off of the pivot bolt.



1/2-inch nut

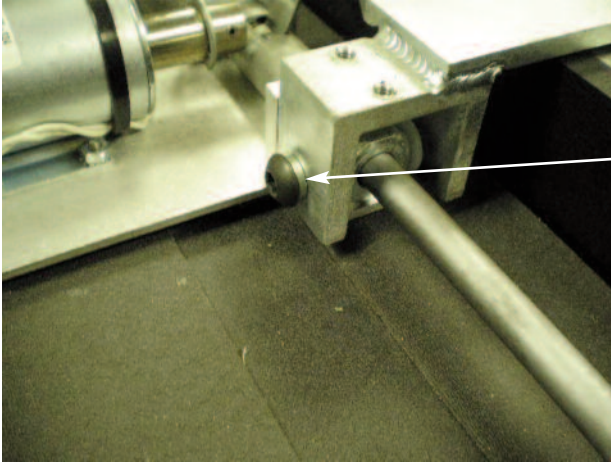
3/16-inch Allen Head Bolt

clevis block



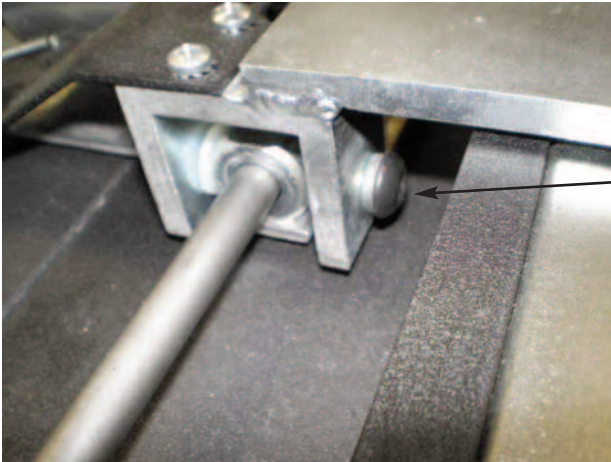
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12. Remove the 3/16-inch Allen Head Bolt that holds the solenoid to the bracket.



Remove  
3/16-inch Allen Head Bolt

13. Loosen the 3/16-inch hex nut on the other side. You will have to use a short length Allen key to reach the nut.



Loosen  
3/16-inch Allen Head Bolt

14. You should now be able to remove the bad Mechlock. Place the new Mechlock into the table.

- 
15. To clean the piston on a Mechlock you must use either a contact cleaner or alcohol. Shoot the solenoid a couple times after you apply the cleaner. This will help get any dirt inside the solenoid. After you have the solenoid completely cleaned apply the C13349 Lubrication to the piston and again shoot the piston.



Piston on  
Solenoid

16. Test for correct operation by sliding the tabletop side to side. If your pendant display does not read L5 to R5 then you will have to do a side to side calibration.
17. If your table does not work properly please call 800-224-6339 ext. 2124 or 2125 for further assistance.

***NOTE:** Always make sure that all of the plugs/connectors are completely in and that there are no bent or pushed in pins. This may cause erratic operation.*

## 4. LIFT ACTUATOR REPLACEMENT, 058-840

---

### *Tools Required*

*Phillips screwdriver*

*5 mm Allen key*

*8 mm wrench*

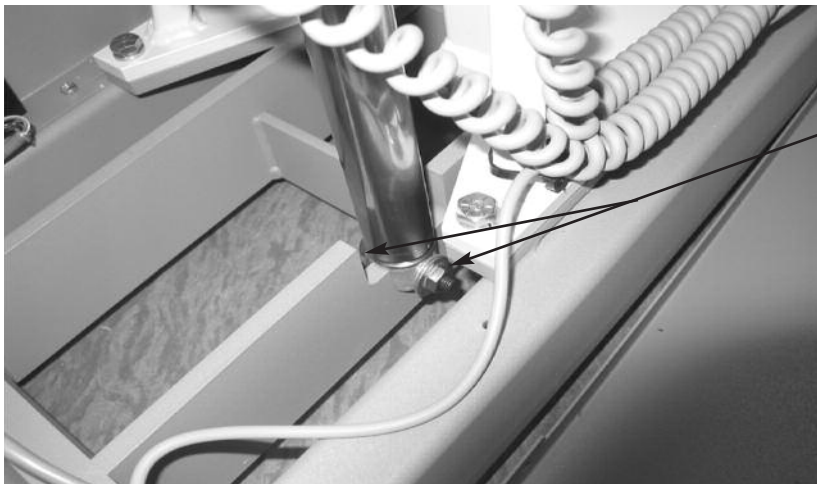
### **PROCEDURE**

1. If the lift actuator is operational, the table should be brought down to its lowest position. If the actuator is not operational, the tabletop must be supported to prevent it from falling once the actuator is removed.
2. Lower the tabletop to its lowest position and remove the 18 Phillips screws that secure the lower portion of the bellows.
3. Remove the eight Phillips screws securing the top covers, and remove one cover at a time.
4. Remove the lower right cover secured with nine Phillips screws.
5. Remove the lower back panel (see Chapter 1, Control Module Replacement). Only three panels now remain on the right side since you should have already removed the lower left panel.

***NOTE:** Be sure to support the tabletop on both ends to prevent it from dropping once the lift actuator is removed.*

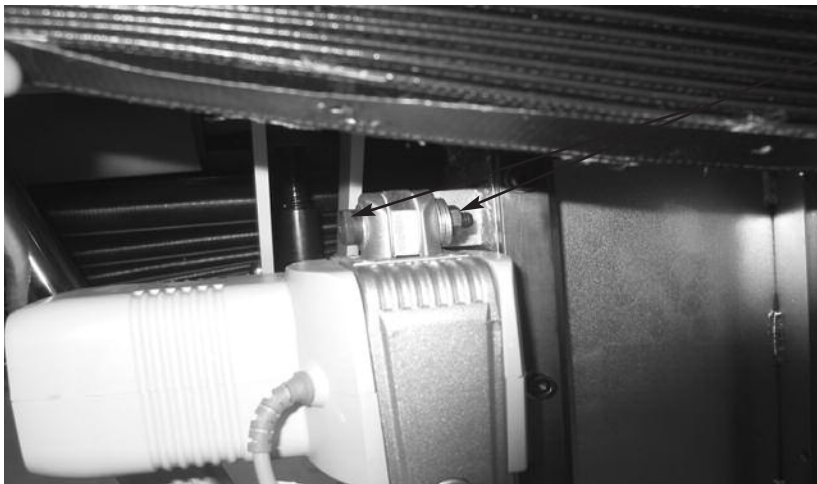
6. The actuator is secured at both ends with a 5 mm Allen head shoulder bolt and an 8 mm nut. (Figure 6.1 shows the lift actuator bottom-securing bolt. Figure 6.2 shows the lift actuator upper securing bolt.)
7. Remove the actuator and unplug the actuator power cable at the RCA jack on the controller box. (Figure 6.3 shows the control box and vertical lift actuator RCA plug location. Also, refer to the parts section drawing labeled I-Base Assy. for assembly components and part numbers.)

***NOTE:** For reinstallation of the actuator, reverse the process and test for proper operation before installing the enclosures.*



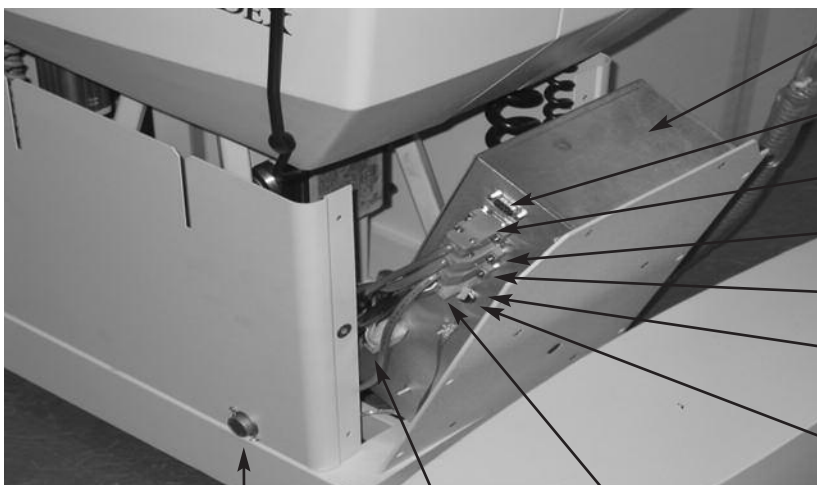
Lift actuator lower bolt and nut

Figure 4.1



Lift actuator upper bolt and nut

Figure 4.2.



Control box is secured with six nuts  
Calibration port  
LCD display cable  
X, Y, tilt position sense  
Hand/Foot control cable  
Main power coiled cable for X and Y, roll actuator  
Trendelenburg actuator

Figure 4.3.

LCD display cable connector used for reprogramming control box

AC pwr/battery

Vertical actuator

## 5. LATERAL TILT ACTUATOR REPLACEMENT, 058-840

---

### PROCEDURE

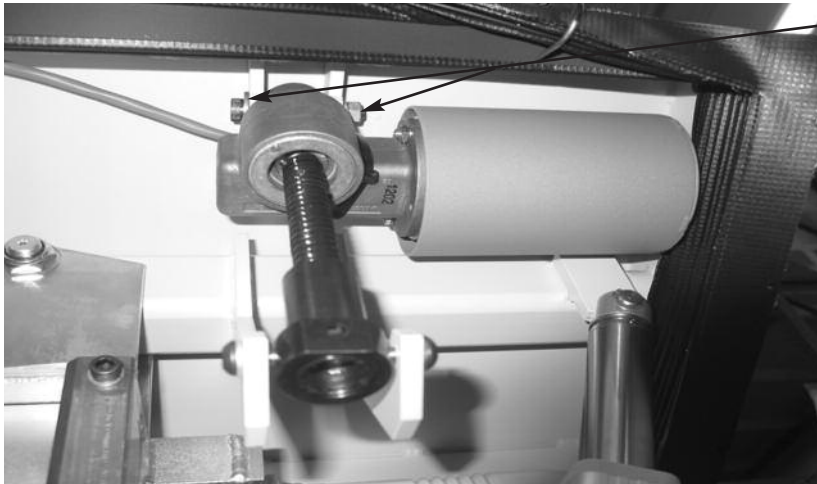
1. If the lateral tilt actuator is operational, tilt it down on the patient right side. The table should be brought head down to its lowest position. If the actuator is not operational, the tabletop must be supported to prevent the tabletop from suddenly tilting once the actuator is removed.
2. The actuator is located inside the bellow on the patient right side. Remove the 18 Phillips screws that secure the lower portion of the bellows.
3. Remove the eight Phillips screws that secure the top covers, and then remove the covers one at a time.
4. Remove the lower right cover that is secured with nine Phillips screws.
5. Remove the lower back panel. (Six screws secure the lower back panel, but only three remain on the right side since you should have already removed the lower left panel.)

***NOTE:** Be sure to support the tabletop to prevent it from dropping once the lateral tilt actuator is removed.*

6. The actuator is secured to the table with a 3/16-inch Allen head shoulder bolt and 1/2-inch nut. (Figure 7.1 shows the securing bolt assembly). In addition, the acme nut is secured with two 3/16-inch bolts. (Figure 7.2 shows the acme nut assembly.)
7. Remove the actuator and unplug the actuator power cable at connector #3 on the controller box. (Figure 7.3 shows the control box and actuator plug location #3. Also refer to the parts section drawing, labeled Base Top Assembly for assembly components and part numbers.)

***NOTE:** For reinstallation of the actuator, reverse the process and test for proper operation before installing the enclosures.*





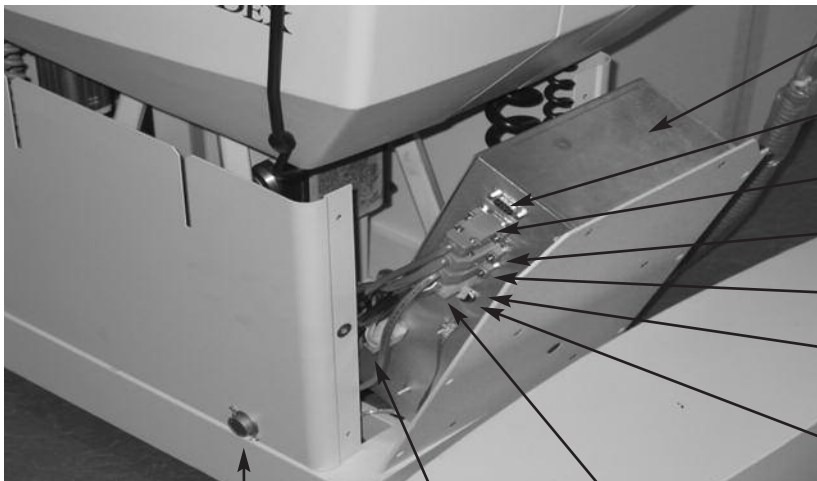
Securing bolt and nut.

Figure 5.1



3/16" Allen head bolts

Figure 5.2.



The control box is secured with six nuts  
Calibration port  
LCD display cable  
X, Y, tilt position sense  
Hand/Foot control cable  
Main power coiled cable for X and Y, roll actuator  
Trendelenburg actuator

Figure 5.3.

LCD display cable Connector and used for reprogramming control box  
AC pwr/battery  
Vertical actuator

## 6. HEAD-TO-TOE TILT ACTUATOR REPLACEMENT, 058-840

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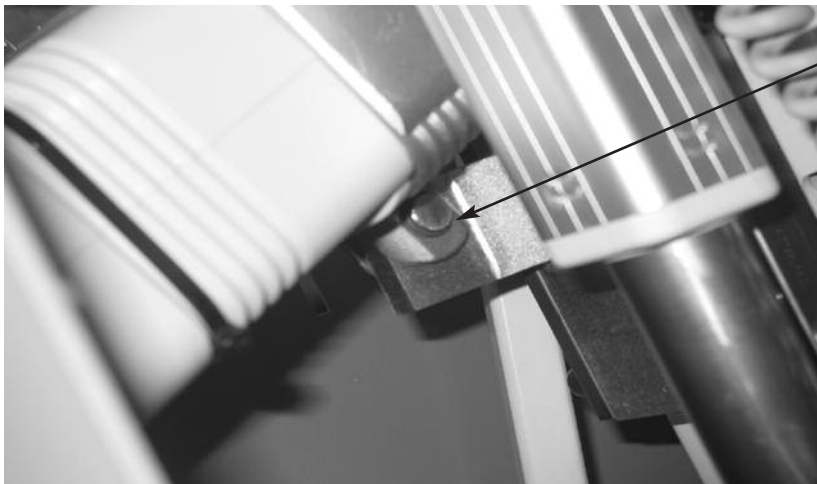
### PROCEDURE

1. If the tilt actuator is operational, the table should be brought head down to its lowest position. If the actuator is not operational, the tabletop must be supported to prevent the top from suddenly tilting once the actuator is removed.
2. Tilt the top head down to its lowest position, and remove the eighteen Phillips screws that secure the lower portion of the bellows.
3. Remove the eight Phillips screws securing the top covers, and then remove the covers one at a time.
4. Remove the lower right cover secured with nine Phillips screws.
5. Remove the lower back panel. (Six screws secure the lower back cover, but only three remain on the right side since you should have already removed the lower left panel.)

*NOTE: Support the tabletop to prevent it from dropping once the tilt actuator is removed.*

6. The actuator is secured at both ends with a pin and C-clip. Remove the clip and pull the pins out. (Figure 8.1 shows the lift actuator bottom-securing bolt. Figure 8.2 shows the lift actuator upper securing bolt. Refer to the illustrated parts section with the page entitled I – Base Assy , see item #51.)
7. Remove the actuator and unplug the actuator power cable at the RCA connector on the controller box. Figure 8.3 shows the control box and actuator plug location.

*NOTE: To reinstall the actuator, reverse the process and test for proper operation before installing the enclosures.*



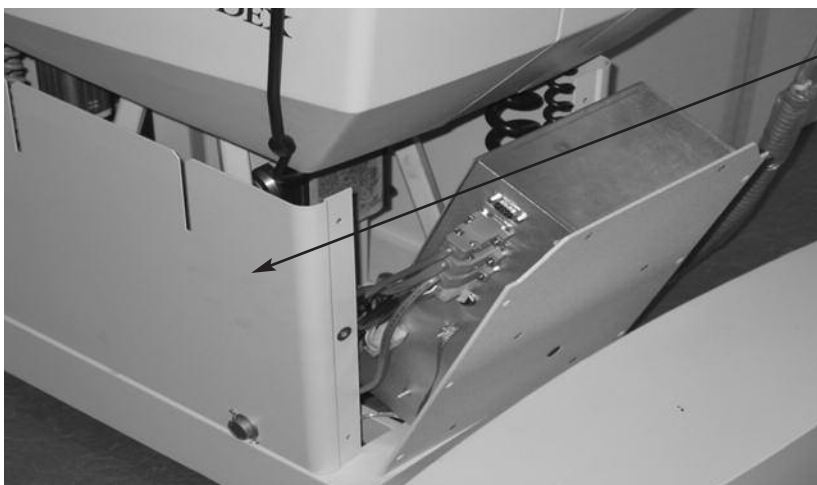
Actuator lower  
securing pin and clip

Figure 6.1.



Actuator upper  
securing pin and clip

Figure 6.2.



Trendelenburg  
actuator

Figure 6.3.

## 7. TABLETOP REPLACEMENT, 058-840

---

1. Activate the X motor and move the tabletop all the way towards the back.
2. Remove the four 9/16-inch bolts, which are now accessible from the underside of the tabletop (see Figure 9.1).
3. Activate the X motor and move the tabletop all the way forward.
4. Support the tabletop before removing the final four 9/16-inch bolts that are accessible from the forward underside of table.
5. Remove the four remaining bolts and lift to remove the tabletop.



*Figure 7.1.*

## 8. CONTROLLER BOX REPLACEABLE COMPONENT PROCEDURE, 058-840

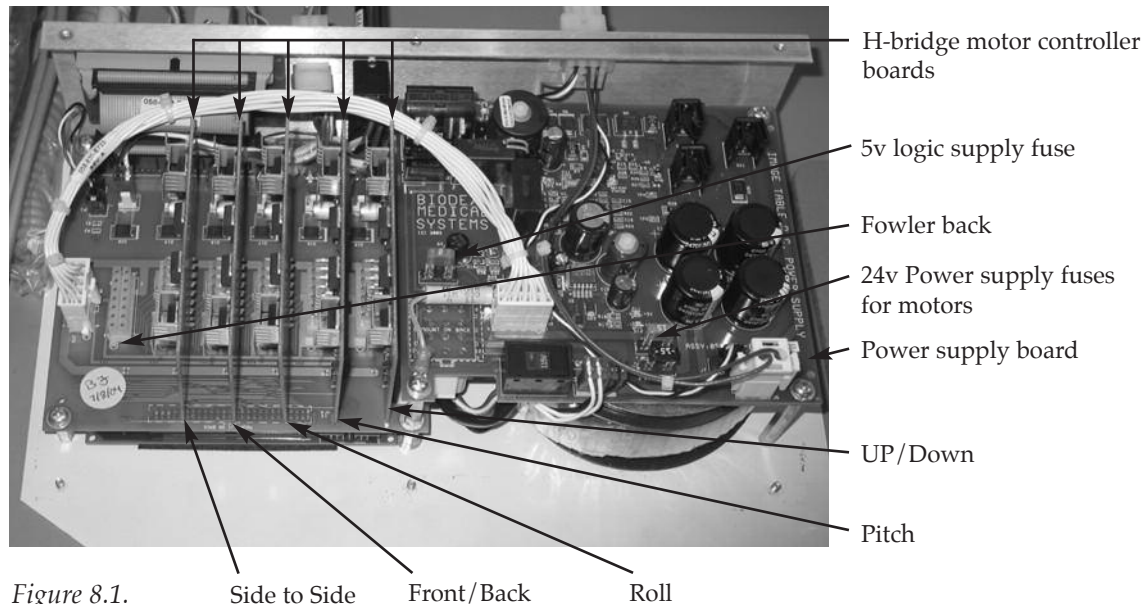


Figure 8.1.

Figure 8.1 shows the control board layout. There are six board slots, which are labeled to designate their function. Each board activates a specific actuator or solenoid. The control board is configured to the table type it is used in. The control box, shown above, is configured for a 058-830 table - that is why the last slot J8 (Fowler Back) is not used.

Slot Designations	Function
J3	Up/Down
J4	Pitch (head to toe tilt)
J5	Roll (side to side tilt)
J6	Front to Back (x axis)
J7	Side to Side (y axis)
J8	Fowler back

### REPLACEABLE COMPONENTS

- Fuses are located on the power supply board as identified above. The motor fuses two are 15-amp and the display/logic is 2-amp. To replace, simply pull straight out from the socket.
- To replace the H-bridge motor controller board, pull straight up. To easily identify if board is defective replace with board from a known operating motor. When installing boards, line up pins on board with connector and press down evenly.
- To replace the Power Supply board, remove the four Phillips screws located at each corner. Next, disconnect the three connectors, J3, J5 & J6.

The above component replacement does not require that the table be recalibrated; however verification of proper operation is required.

## 9. TILT SENSOR BOARD REMOVAL AND REPLACEMENT, 058-840

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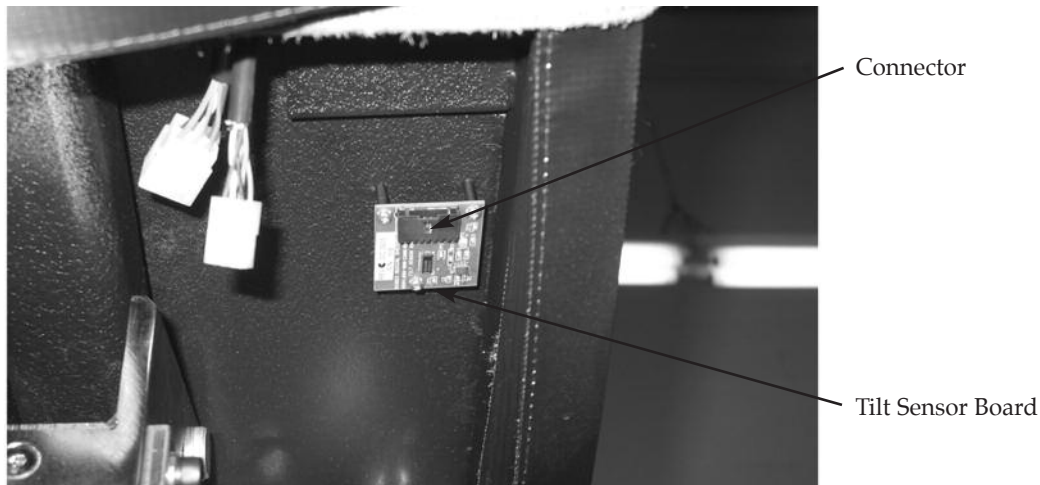


Figure 9.1.

### PROCEDURE

The tilt sensor is under the tabletop, on the patient left side next to lateral tilt actuator.

1. Raise table to maximum height, for better accessibility.
2. Remove the eighteen Phillips screw securing the lower portion of the bellows.
3. Lift the bellows and secure in the up position. This provides you with access to the sensor.
4. Disconnect the signal cable connector.
5. Remove the three Phillips screws securing the sensor board.
6. To reinstall the Tilt Sensor board, reverse the procedure above. For a detailed illustration refer to Chapter 15, Part and Assembly illustrations.

**NOTE:** The table must be recalibrated when a new sensor is installed. Refer to Chapter 11, Calibration Procedure for instructions.



## 10. POSITION SENSING STRIP REPLACEMENT, PROCEDURE 058-840

---

### PROCEDURE

The table utilizes three precision resistor strips to sense the table's height and X, Y tabletop position. Figure 10.1 shows the resistor strip installed on the table. The wiper/roller move along the resistor strip as the position of the table changes. The resistance change is in direct correlation to the wiper position. Any changes in resistance are converted to position counts, which are shown on the display.

**NOTE:** Refer to Chapter 4, *Lift Actuator Replacement*, steps one through four, to access the position strip for replacement. Refer to Chapter 7, *Tabletop Replacement*, to access X and Y position strip for replacement.



Figure 10.1. Height position sensing resistor strip

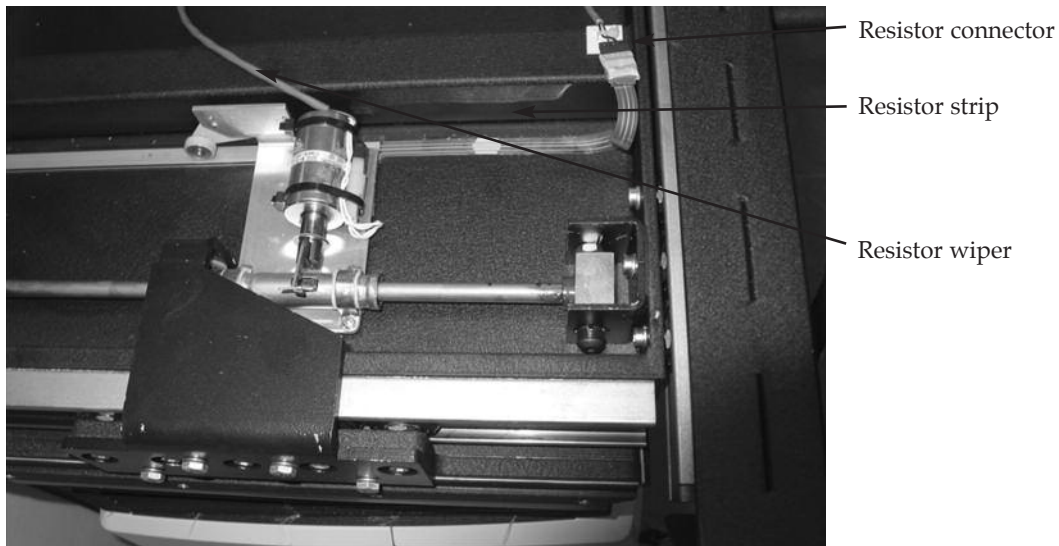


Figure 10.2. Y position sensing resistor strip (solenoid assembly, tabletop removed)

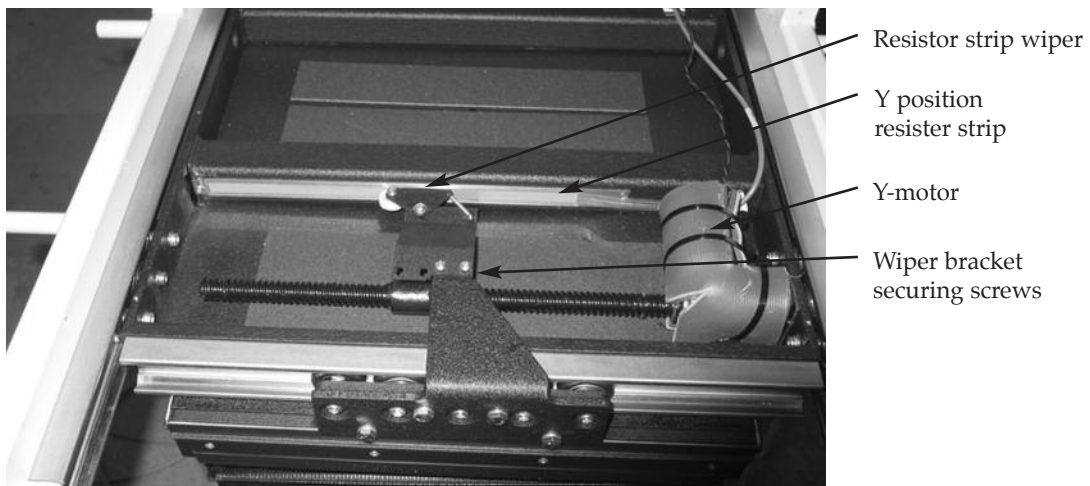


Figure 10.3. Y position sensing resistor strip (actuator assembly, tabletop removed)



Figure 10.4. X position sensing resistor strip (tabletop removed for viewing)



Figure 10.5. Resistor strip not installed. Note that the strip is secured with adhesive to a thin metal mounting plate. The mounting plate is attached to the designated location with two Phillips screws at each end.



---

## **REPLACING THE RESISTOR STRIP**

To replace the resistor strip, remove the two securing screws. Next, lift wiper/roller and remove the strip (strip may also be secured with adhesive). When any sensor is replaced a table calibration is required. Refer to Chapter 11, *Calibration Procedure*, for instructions.

# 11. TABLE CALIBRATION PROCEDURE, 058-840

---

## *Required Equipment*

PC with latest table calibration software installed

## **PROCEDURE**

1. Connect COMM PORT 1 of the PC to the 9 pin male "D" connector of the table's control box, using a 9 pin female to 9 pin female RS-232 cable.
2. Turn the computer and monitor on.
3. When Windows is finished booting, double-click the left mouse button on the Image Table icon on the PC's desktop, to start the utility software.
4. Enter the table serial number in the appropriate box in the utility software.
5. Turn the table ON. "Welcome", "Press C to Calibrate" and other information or characters may be displayed in the software's receive window.
6. Click the left mouse button on "CALIBRATE." "++++ IMAGE TABLE CALIBRATION ++++" will be displayed in the software's receive window.
7. Follow the on-screen prompts in the utility's receive window.
8. The current selection for the type of table is displayed. This can be changed by pressing "Y" on the keyboard.
9. The table type choices are: 1) 870/C-ARM, 2) 840 Float Top, 3) Lithotripsy, 4) 800/810 URO/BRACH. Select the correct table type by pressing number 1-4 on the keyboard.
10. The current selection for the type of motor installed is displayed. The motor type choice is either High Speed or Low Speed. If this is incorrect, the motor type can be changed by pressing "Y" on the keyboard, otherwise press "N".
11. You will be given the option to calibrate each of the following:  
UP/DOWN  
FORWARD/BACK  
SIDE TO SIDE  
JOYSTICK  
PITCH Axis  
ROLL Axis
12. Select "Y" for each and follow the on-screen prompts.
13. To Calibrate UP/DOWN:
  - a. Press the appropriate UP or DOWN hand switch button so that "+ +" is displayed in the utility's receive window.
  - b. When the MAX Position is reached, reverse direction momentarily to back away from the MAX Position slightly, then press any key to set position.
  - c. Press the appropriate UP or DOWN hand switch button so that "- -" is displayed in the utility's receive window.
  - d. When the MAX Position is reached, reverse direction momentarily to back away from the MAX Position slightly, then press any key to set position.

- 
- 
14. Calibrate FORWARD/BACK:
    - a. Use Release Handle so that "+ +" is displayed in the utility's receive window.
    - b. When the MAX Position is reached, reverse direction momentarily to back away from the MAX Position slightly, then press any key to set position.
    - c. Use Release Handle to move tabletop so that "- -" is displayed in the utility's receive window.
    - d. When the MAX Position is reached, reverse direction momentarily to back away from the MAX Position slightly, then press any key to set position.
  15. Calibrate SIDE TO SIDE:
    - a. Use Release Handle to move tabletop so that "+ +" is displayed in the utility's receive window.
    - b. When the MAX Position is reached, reverse direction momentarily to back away from the MAX Position slightly, then press any key to set position.
    - c. Use Release Handle to move tabletop "- -" is displayed in the utility's receive window.
    - d. When the MAX Position is reached, reverse direction momentarily to back away from the MAX Position slightly, then press any key to set position.
  16. Calibrate PITCH Axis:
    - a. Press the appropriate PITCH hand switch button so that "+ +" is displayed in the utility's receive window.
    - b. When the MAX Position is reached, reverse direction momentarily to back away from the MAX Position slightly, then press any key to set position.
    - c. Press the appropriate PITCH hand switch button so that "- -" is displayed in the utility's receive window.
    - d. When the MAX Position is reached, reverse direction momentarily to back away from the MAX Position slightly, then press any key to set position.
  17. Calibrate ROLL Axis:
    - a. Press the appropriate ROLL hand switch button so that "+ +" is displayed in the utility's receive window.
    - b. Press any key when 18 DEGREES TILT is reached.
    - c. Press the appropriate ROLL hand switch button so that "- -" is displayed in the utility's receive window.
    - d. Press any key when 18 DEGREES TILT is reached.
  18. You will be asked if you need to change the HOME Position. Move the table to the NEW HOME Position, then press any key.

*NOTE: The table must have the HOME position set to Full Down, Full Back, and Left/Right Centered.*
  19. When "\*\*\*\*\* EXIT Calibration MODE \*\*\*\*\*" is displayed you can choose to discard the previous calibration by pressing "C" to recalibrate, or save the calibration by pressing "S," or load a saved calibration by pressing "L".
  20. When you are satisfied with the calibration, press "S" to save the calibration. Various numbers and letters will scroll by in the software's receive window.
  21. The Imaging Table Calibration Utility may be exited by clicking File --> Exit on the menu bar or by clicking the X in the upper right corner.

# 12. OPERATION/CALIBRATION VERIFICATION, 058-840

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## PROCEDURE

### AC Powered

#### MAIN LCD CONTROL

1. Verify scaling on all axes.
  - a. Pitch                -1 to -20, 0, 1 to 20
  - b. Roll                R1-20, 0, L1-20
  - c. Vertical            0 - 10
2. Verify that the commanded direction matches the actual direction for all axes.
3. Verify move to stored position, both direction and value.
4. Verify that the hold button is enabled. Press and hold the soft button four for 15 seconds to enter hidden setup screen. Check for hold button enabled.
5. Verify level. Press the hold and level buttons simultaneously, and confirm that the table levels both horizontally and vertically and beeps indicating that the final position has been reached.
6. Verify home. Press the hold and home buttons simultaneously, and confirm that the table moves to home position and beeps indicating that the final position has been reached.
7. Verify that the main control operates in both ports.
8. Verify that the LCD screen Displays "AC" in lower left hand corner.
9. Verify scaling on all axes.
  - a. Pitch                -1 to -20, 0, 1 to 20
  - b. Roll                R1-20, 0, L1-20
  - c. Vertical            0 - 10
10. Verify that the commanded direction matches the actual direction for all axes.
11. Verify that the hand pendent operates in both ports.

#### HAND PENDANT CONTROL

1. Verify scaling on all axes.
  - a. Pitch                -1 to -20, 0, 1 to 20
  - b. Roll                R1-20, 0, L1-20
  - c. Vertical            0 - 10
2. Verify that the commanded direction matches the actual direction for all axes.
3. Verify that the hand pendent operates in both ports.

---

#### FOOTSWITCH CONTROL

1. Verify scaling on all axes.
  - a. Pitch                -1 to -20, 0, 1 to 20
  - b. Roll                R1-20, 0, L1-20
  - c. Vertical            0 - 10
2. Verify that the commanded direction matches the actual direction for all axes.
3. Verify that the footswitch operates in both ports.

#### BATTERY Powered

#### MAIN LCD CONTROL

1. Verify scaling on all axes.
  - a. Pitch                -1 to -20, 0, 1 to 20
  - b. Roll                R1-20, 0, L1-20
  - c. Vertical            0 - 10
2. Verify that the commanded direction the matches actual direction for all axes.
3. Verify move to stored position, both direction and value.
4. Verify that the hold button is enable. Press and hold the soft button four for 15 seconds to enter hidden setup screen. Check for hold button enabled.
5. Verify level. Press the hold and level buttons simultaneously, and confirm that the table levels both horizontally and vertically and beeps indicating that the final position has been reached.
6. Verify home. Press the hold and home buttons simultaneously, and confirm that the table moves to home position and beeps indicating that the final position has been reached.
7. Verify that the main control operates in both ports.
8. Verify that the LCD screen Displays "BATT" in lower left hand corner.

# 13. DISPLAY LCD PENDANT REPLACEMENT, 058-840

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## HAND PENDANT CONTROL

1. Verify scaling on all axes.
  - a. Pitch                -1 to -20, 0, 1 to 20
  - b. Roll                R1-20, 0, L1-20
  - c. Vertical            0 - 10
2. Verify that the commanded direction matches the actual direction for all axes.
3. Verify that the hand pendent operates in both ports.

## FOOTSWITCH CONTROL

1. Verify scaling on all axes.
  - a. Pitch                -1 to -20, 0, 1 to 20
  - b. Roll                R1-20, 0, L1-20
  - c. Vertical            0 - 10
2. Verify that the commanded direction matches the actual direction for all axes.
3. Verify that the footswitch operates in both ports.

## RELEASE HANDLE

4. X-axis                0 - 20  
   Y-axis                R1-5, 0, L1-5

---

The LCD Pendant displays and stores position information and controls all the motor movements, up/down, Trendelenburg /rev, lateral roll, head to toe actuator (X) and side-to-side actuator (Y). The Release Handle releases the X and Y solenoids simultaneously, which allows the top to float.

## REMOVAL OF DISPLAY

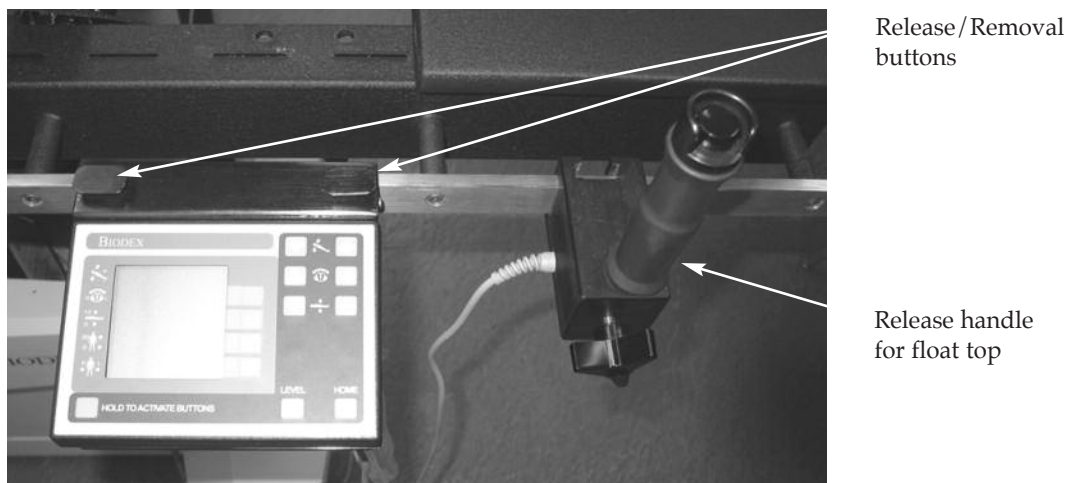


Figure 13.1.

1. To remove the display, lift the display up while depressing the release/removal buttons. Also the Display can be positioned anywhere along the rail by depressing the release buttons.
2. Disconnect the two connectors shown in Figure 15.1. The connectors are color-coded for the blue is main power/communication cable and white is for either the release handle (840) or joystick (830), based on table configuration.

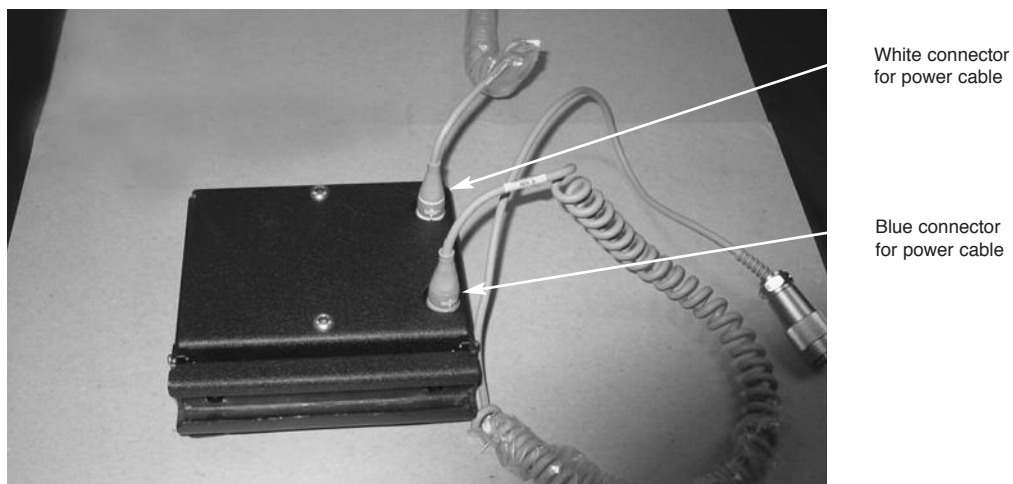


Figure 13.2.

## 14. TABLE FIRMWARE UPDATE, 058-840

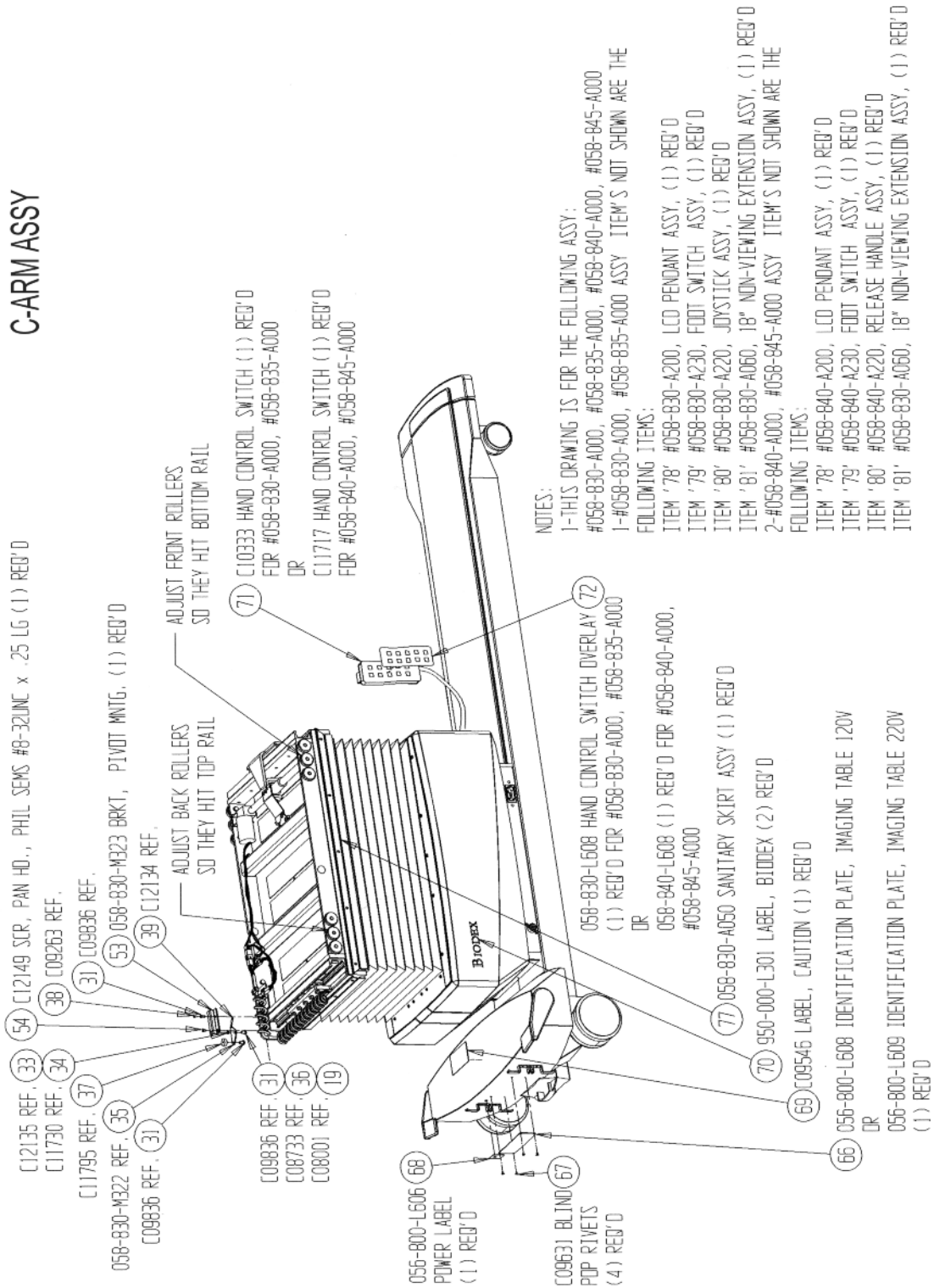
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1. Connect the PC to the 9 pin female "D" connector of the control box, using the special 9 pin female to 9 pin male DSP programming cable.
2. Turn the computer and monitor on.
3. Turn the table on.
4. When Windows is finished booting, double-click the left mouse button on the Image table icon on the PC's desktop to start the utility software.
5. Enter the table serial number in the appropriate box in the utility software.
6. Click on the PROGRAM LCB to begin the firmware update.
7. When the update is complete, close any newly opened windows by clicking the X in the upper right corner of each window.
8. The Imaging Table Calibration Utility may be exited by clicking File --> Exit on the menu bar or by clicking the X in the upper right corner.



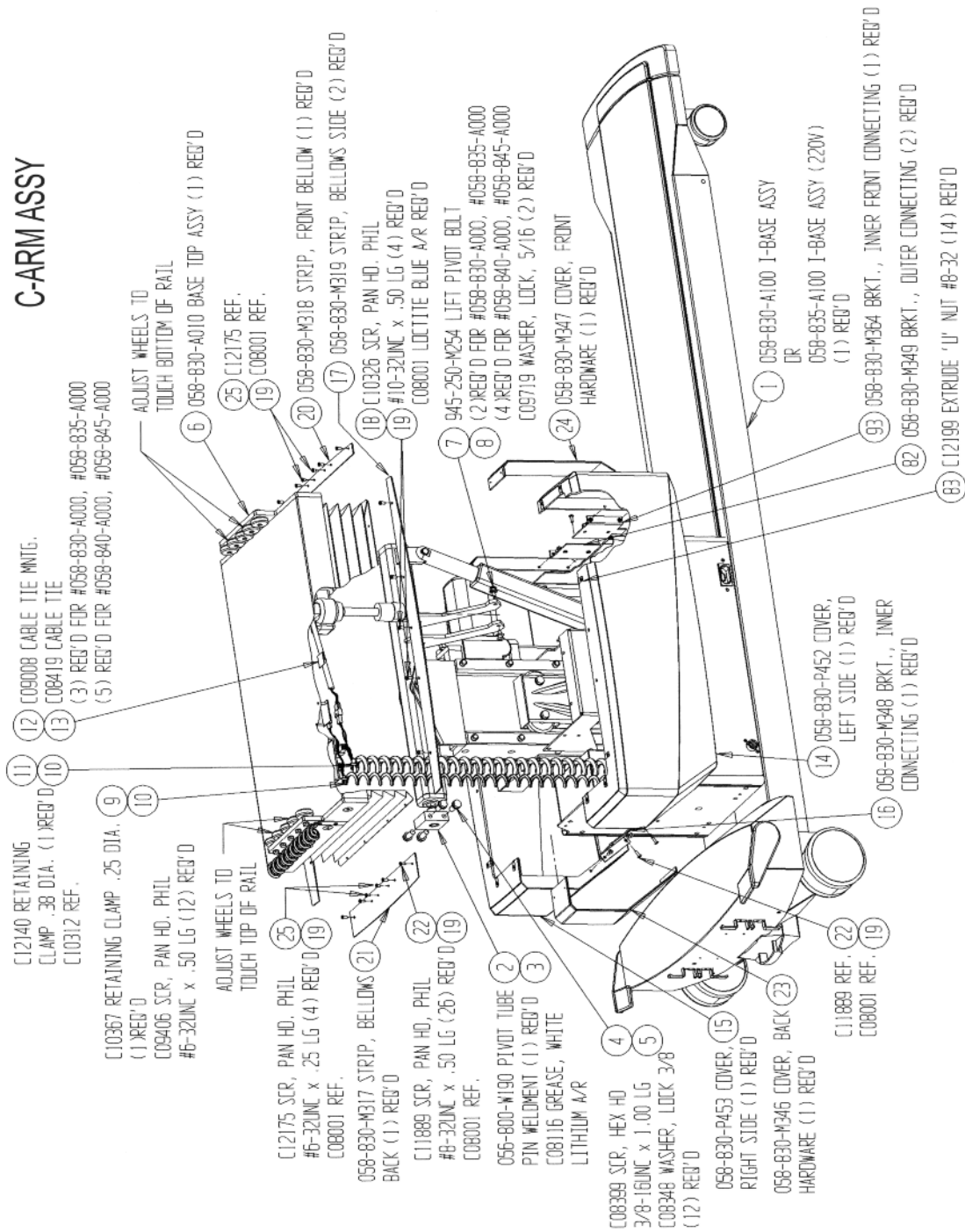
# 15. PART AND ASSEMBLY ILLUSTRATIONS, 058-840

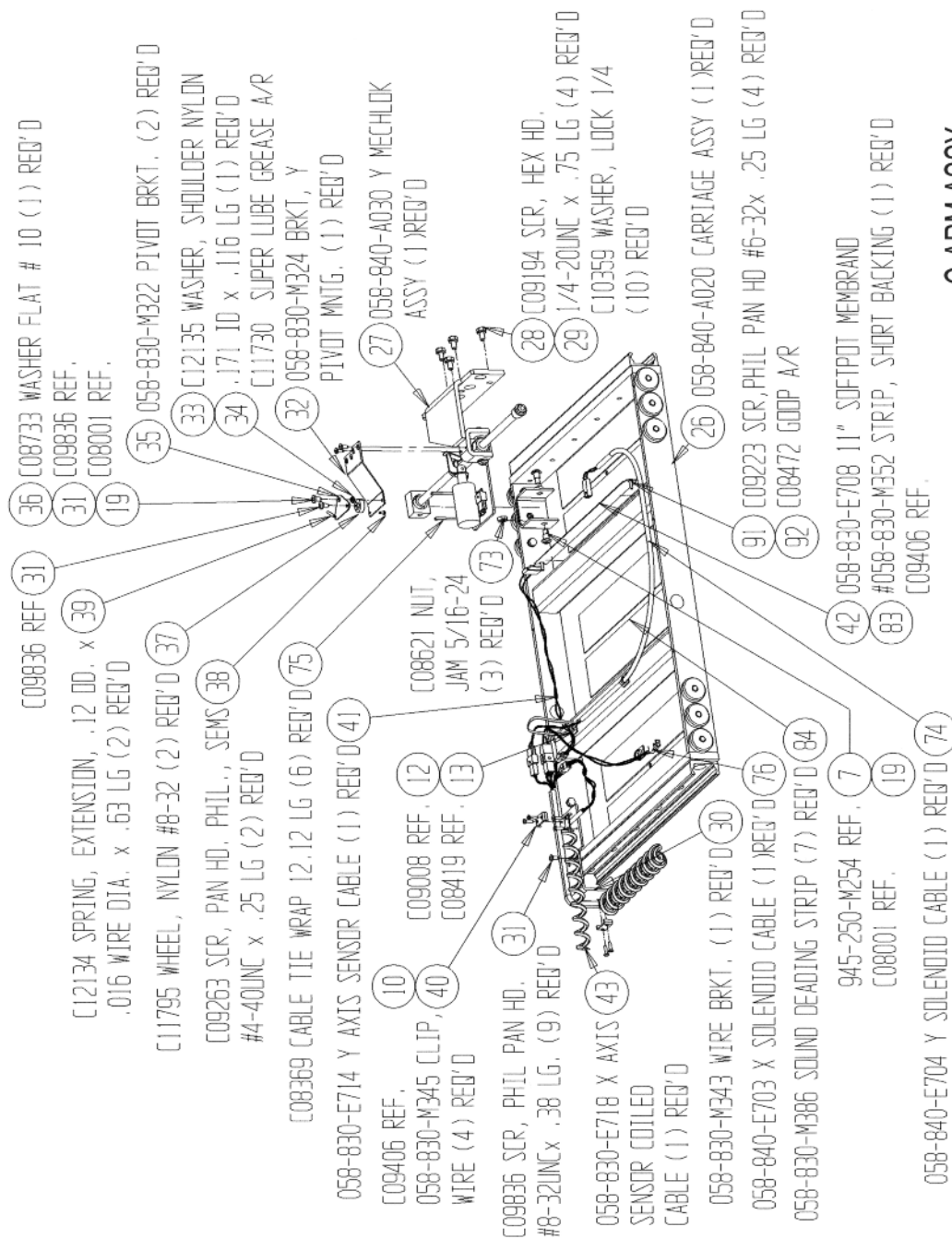
## C-ARM ASSY





# C-ARM ASSY



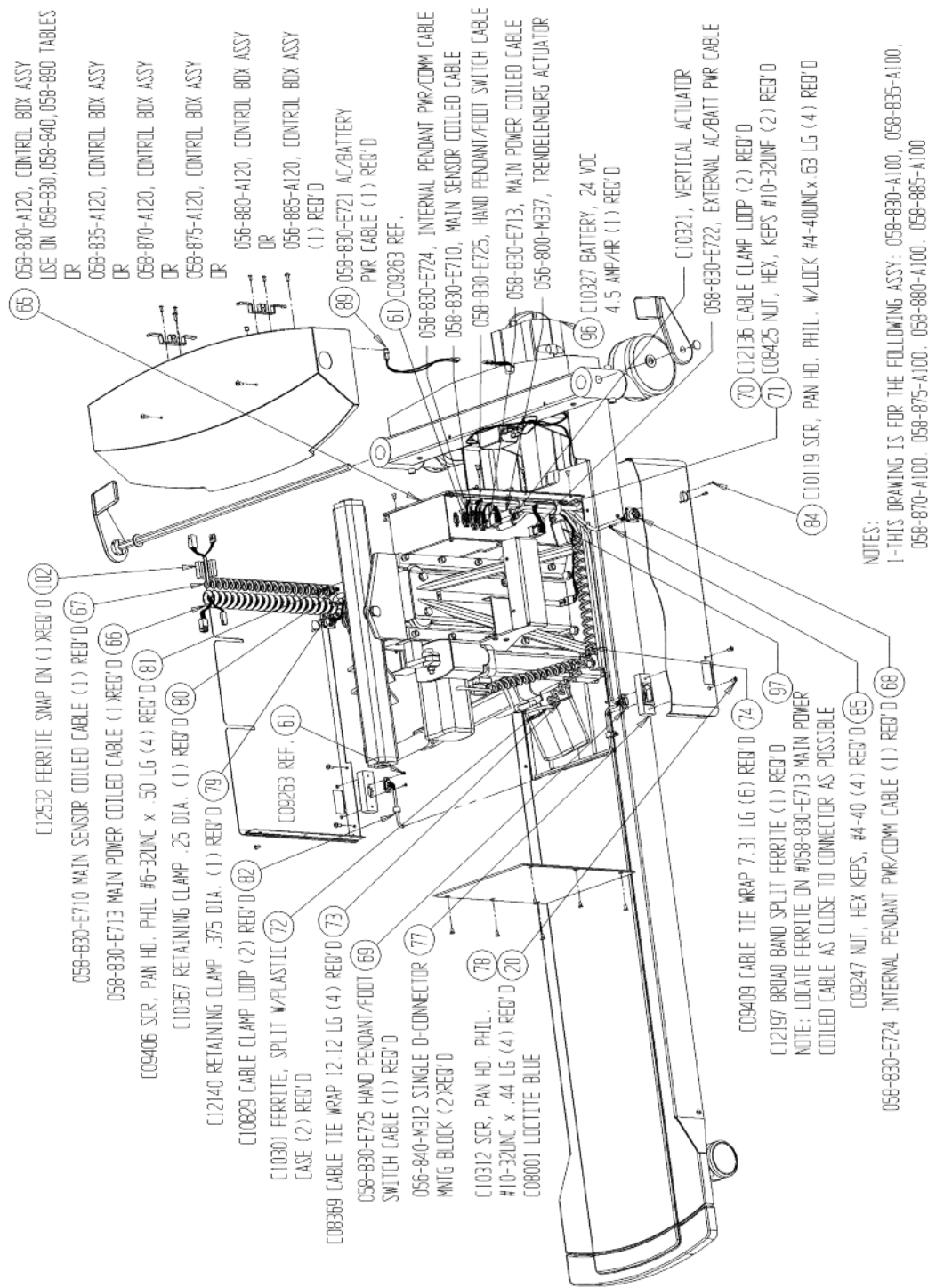


## C-ARM ASSY

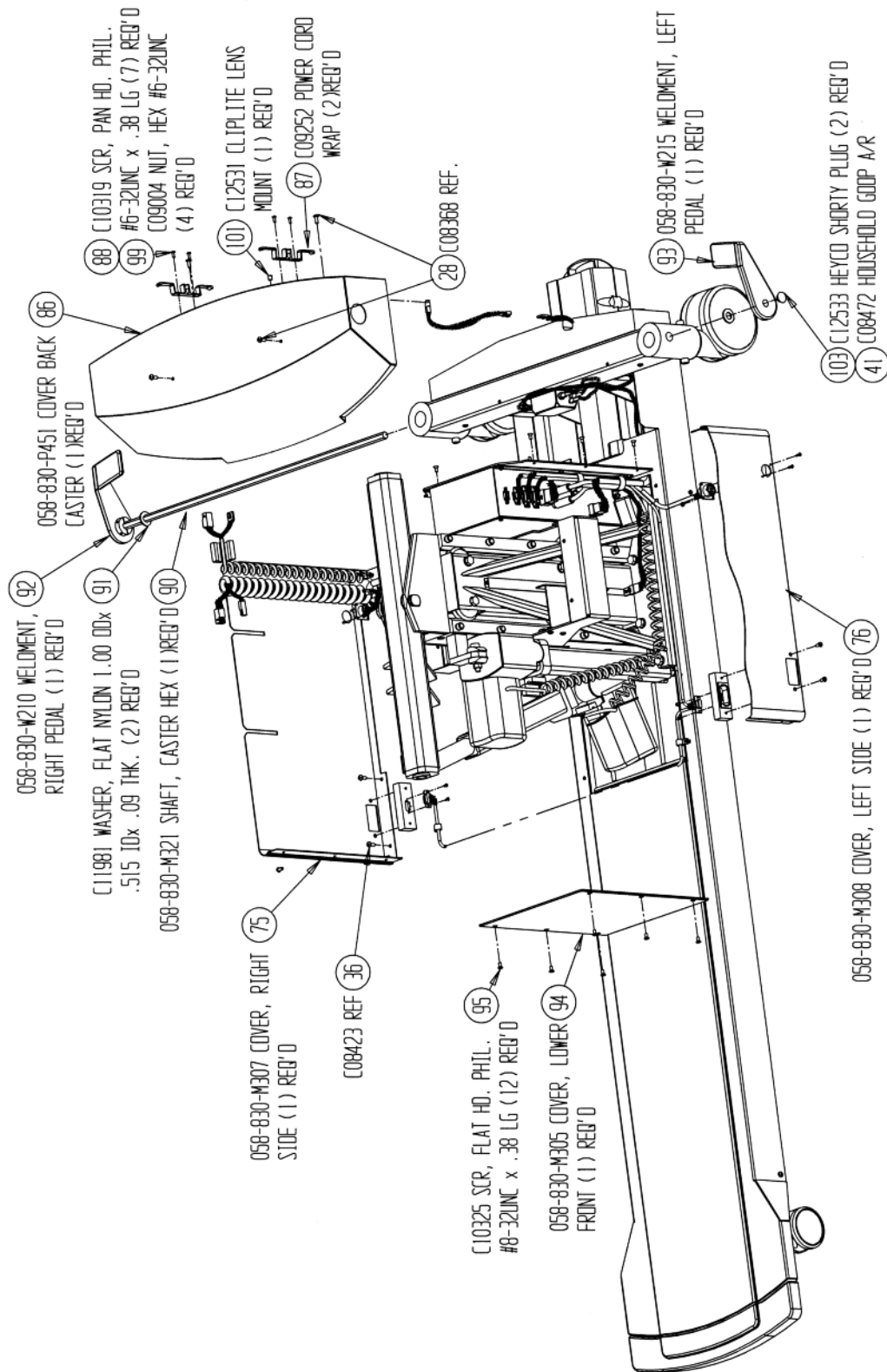
ONLY USED ON THE 058-840-A000 ASSY



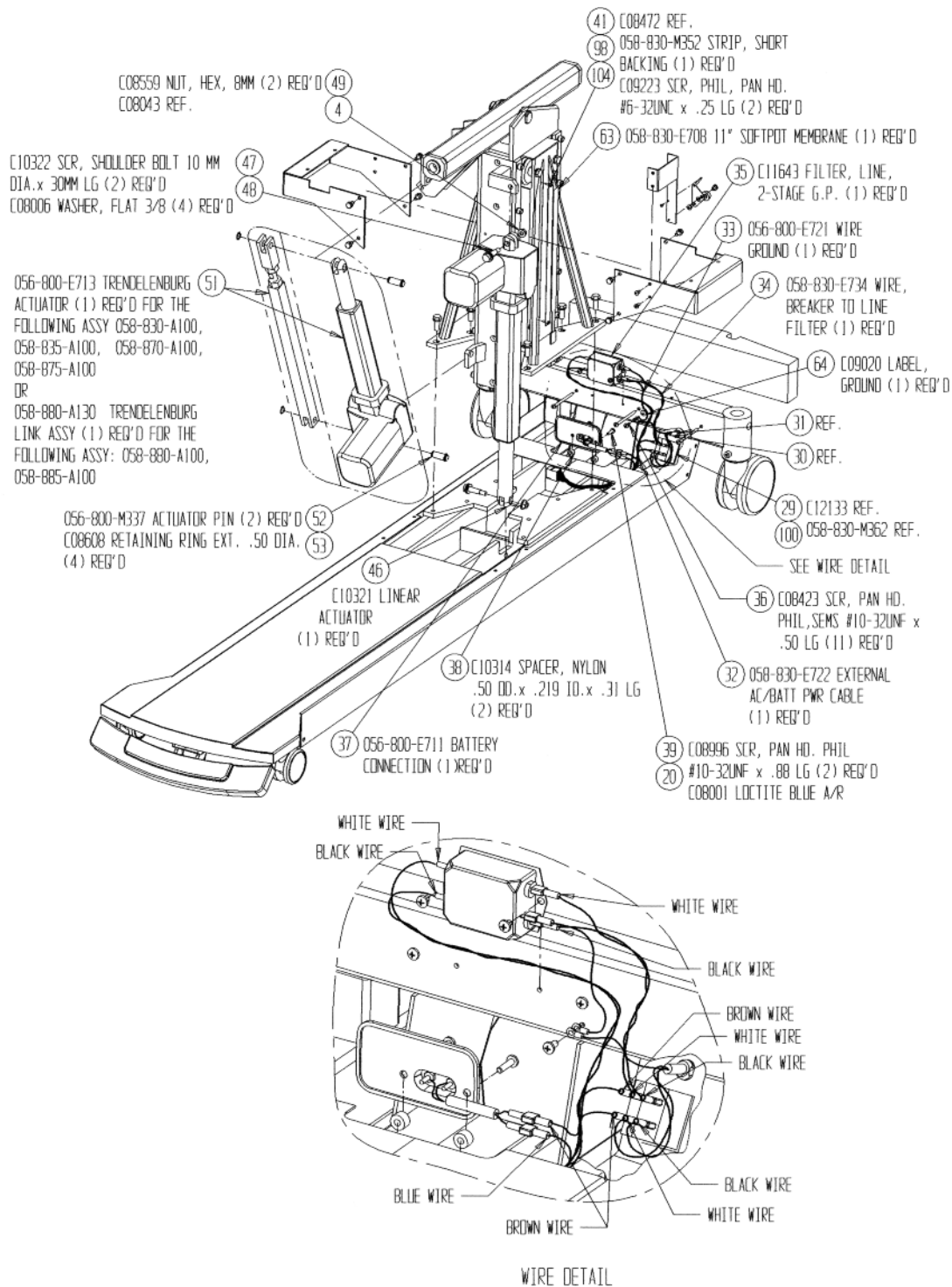
# I-BASE ASSY



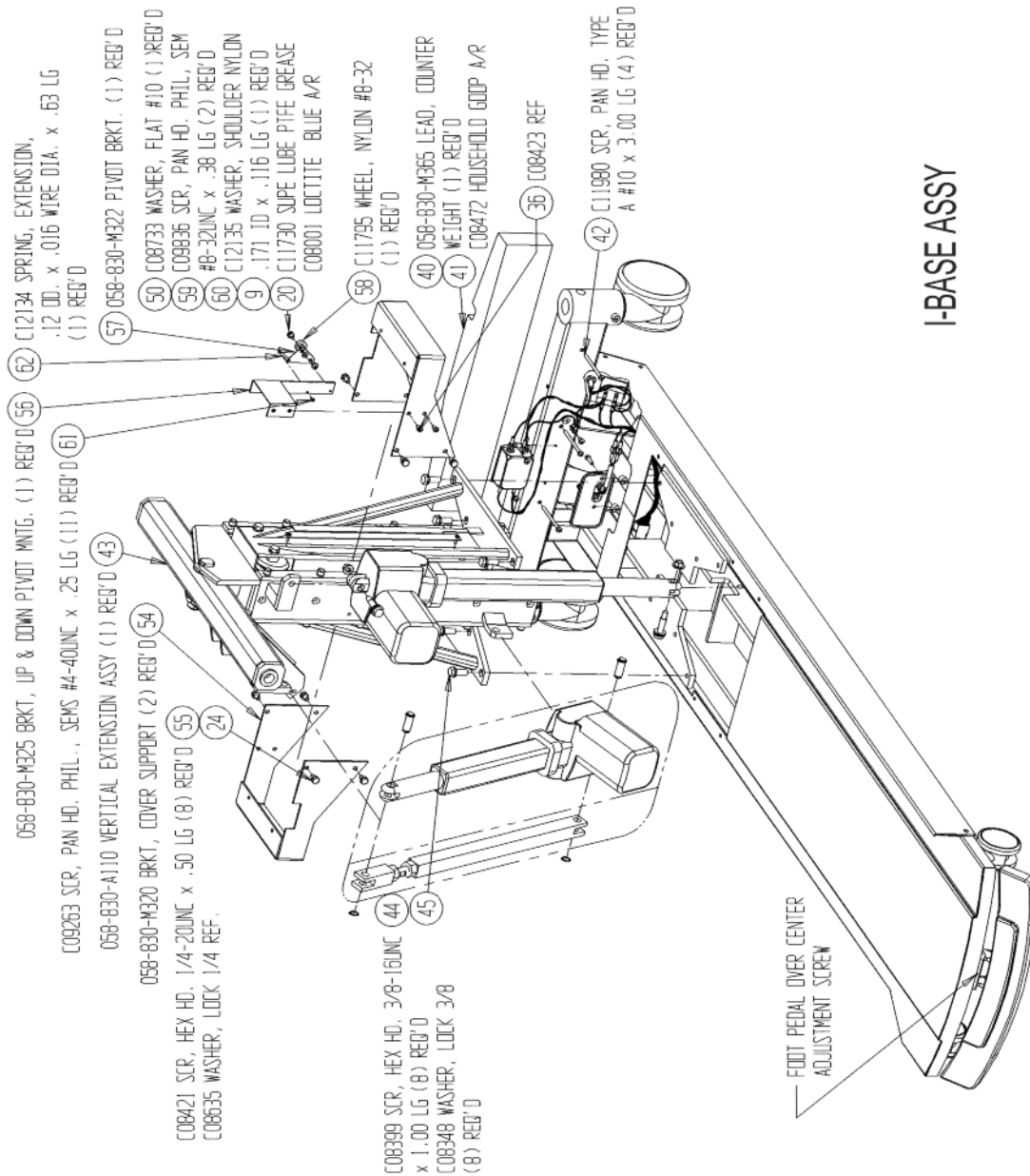
# I-BASE ASSY

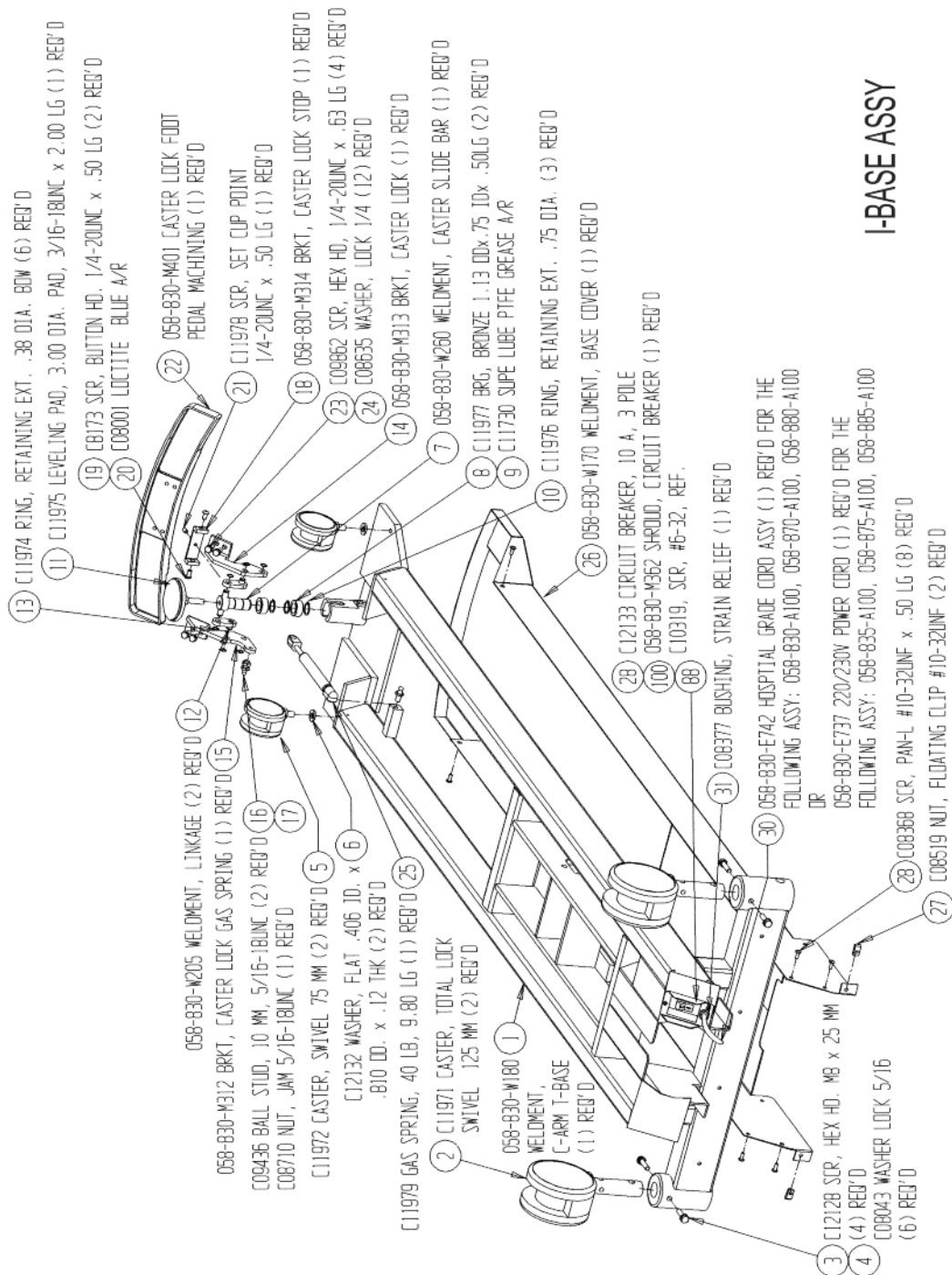


## I-BASE ASSY

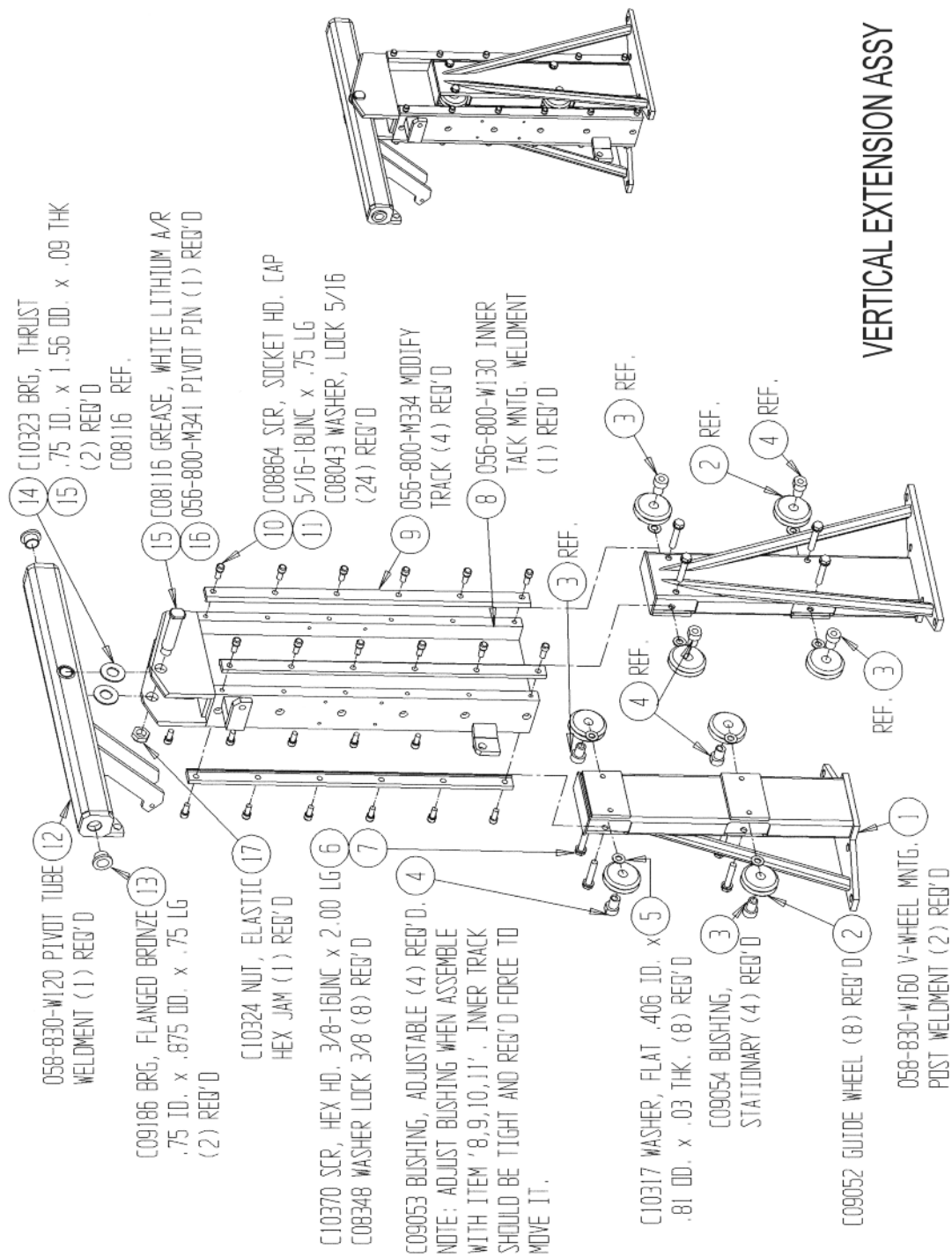








## I-BASE ASSY

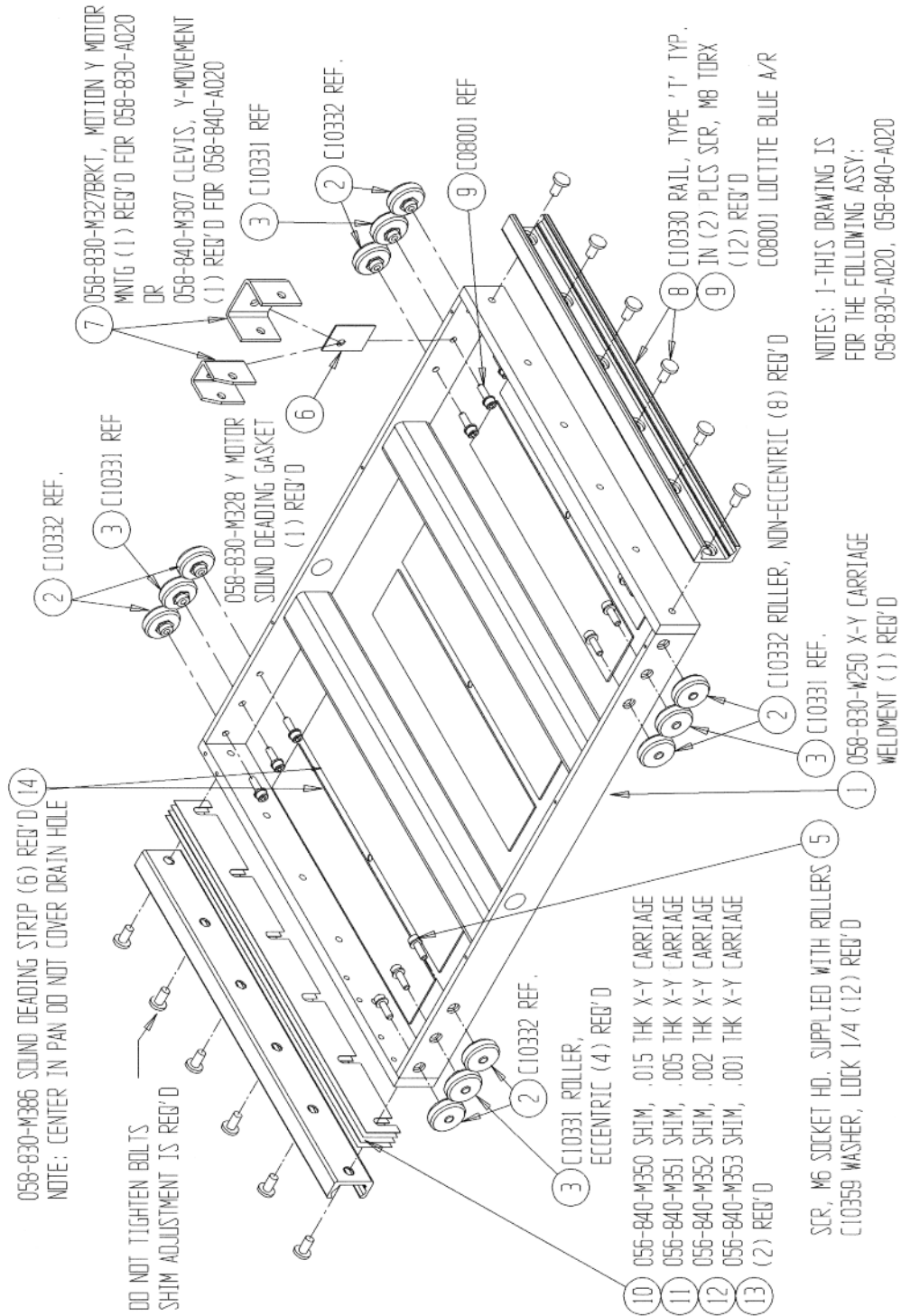




[illegible]

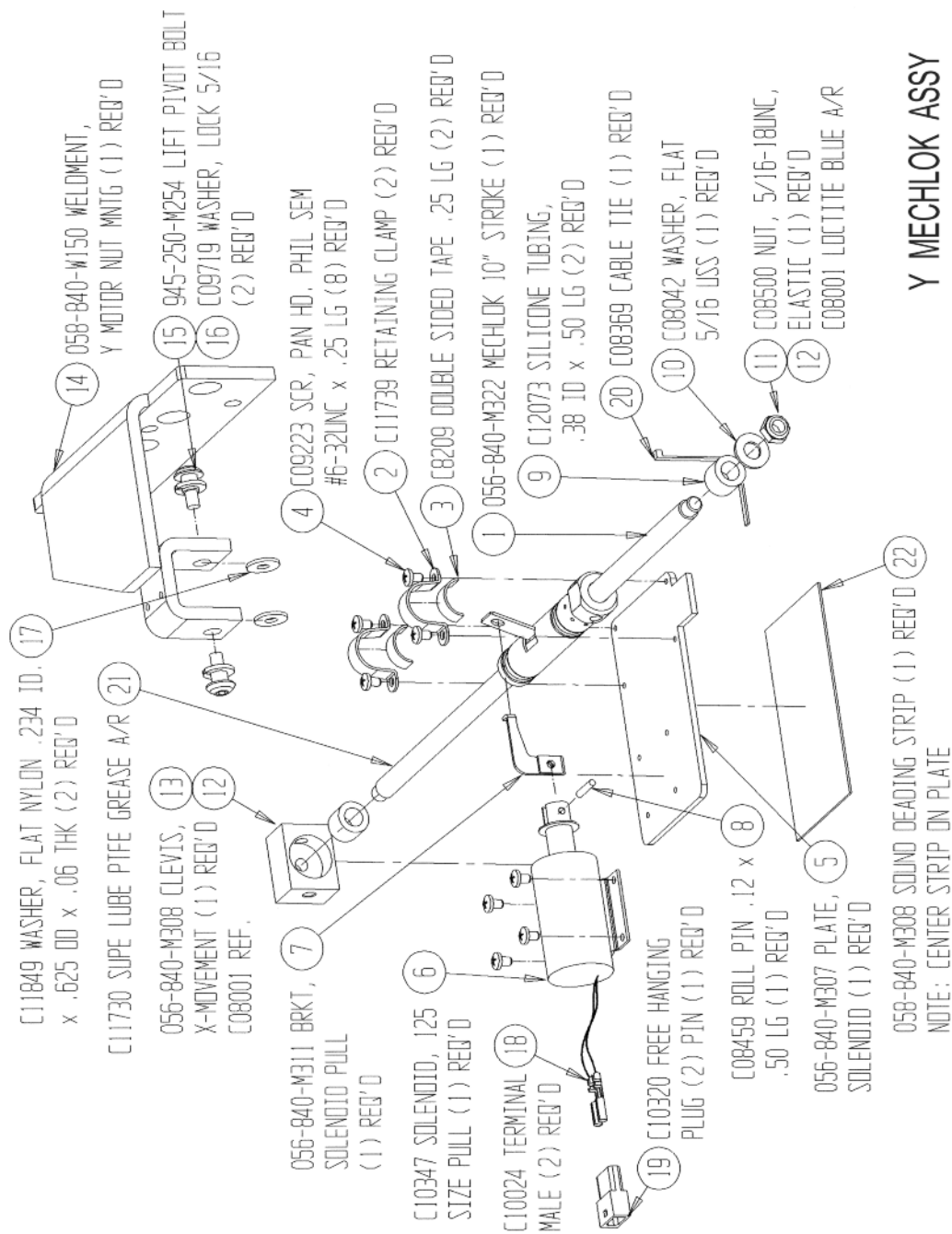


# CARRIAGE ASSY

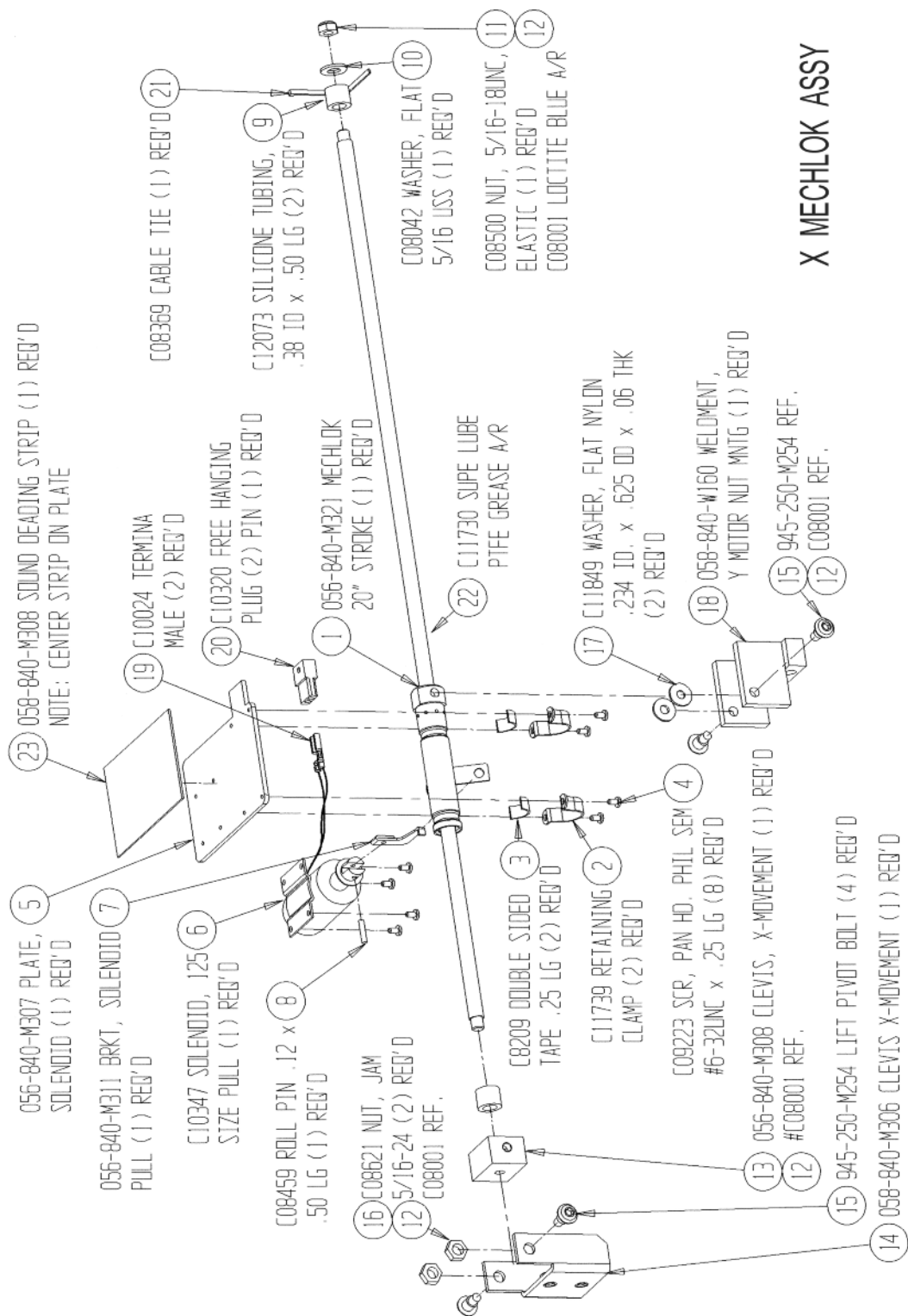


NOTES: 1-THIS DRAWING IS  
FOR THE FOLLOWING ASSY:  
058-830-A020, 058-840-A020



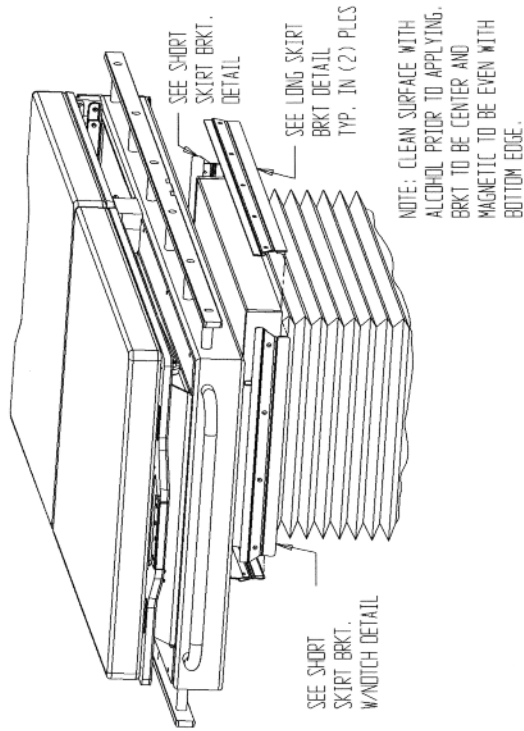
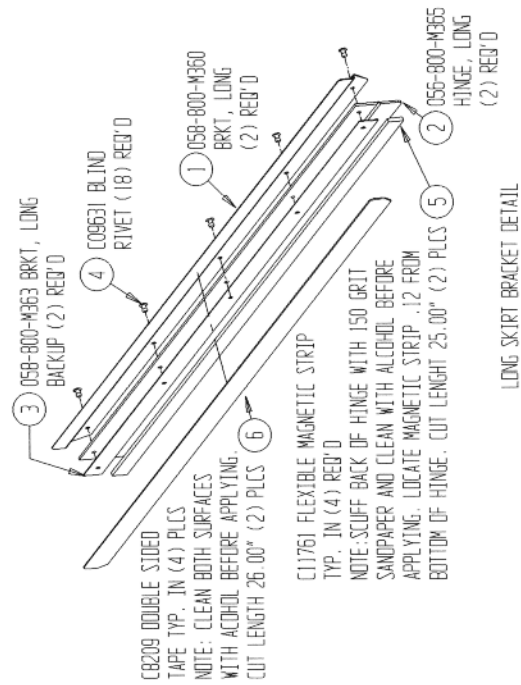
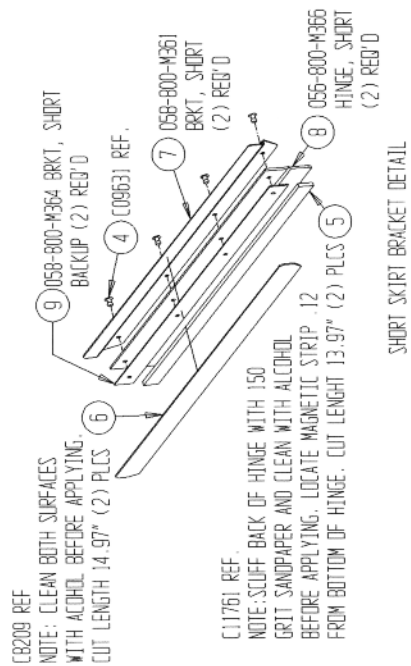


## Y MECHLOK ASSY

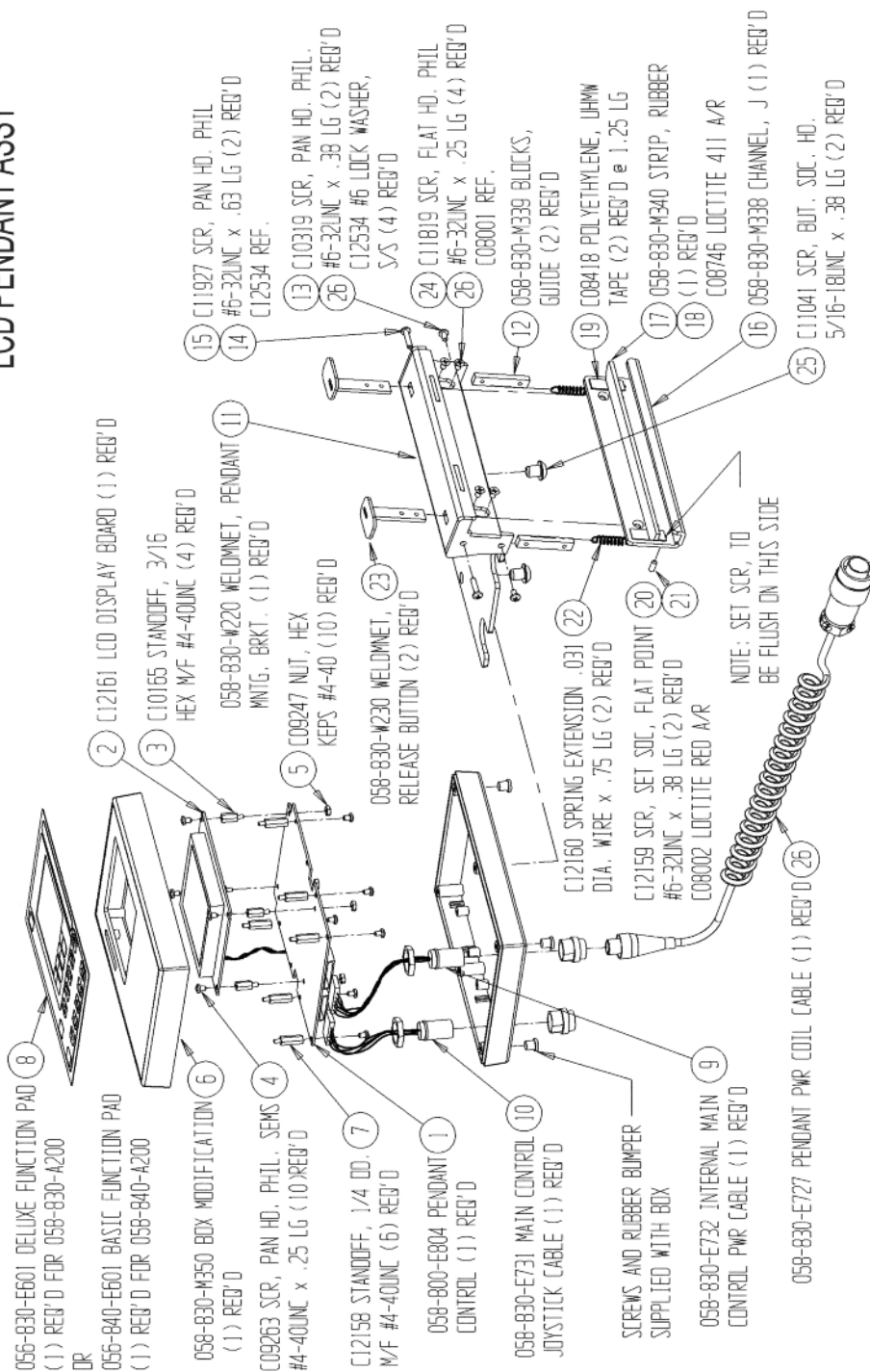


## X MECHLOK ASSY

## SANITARY SKIRT ASSY



# LCD PENDANT ASSY

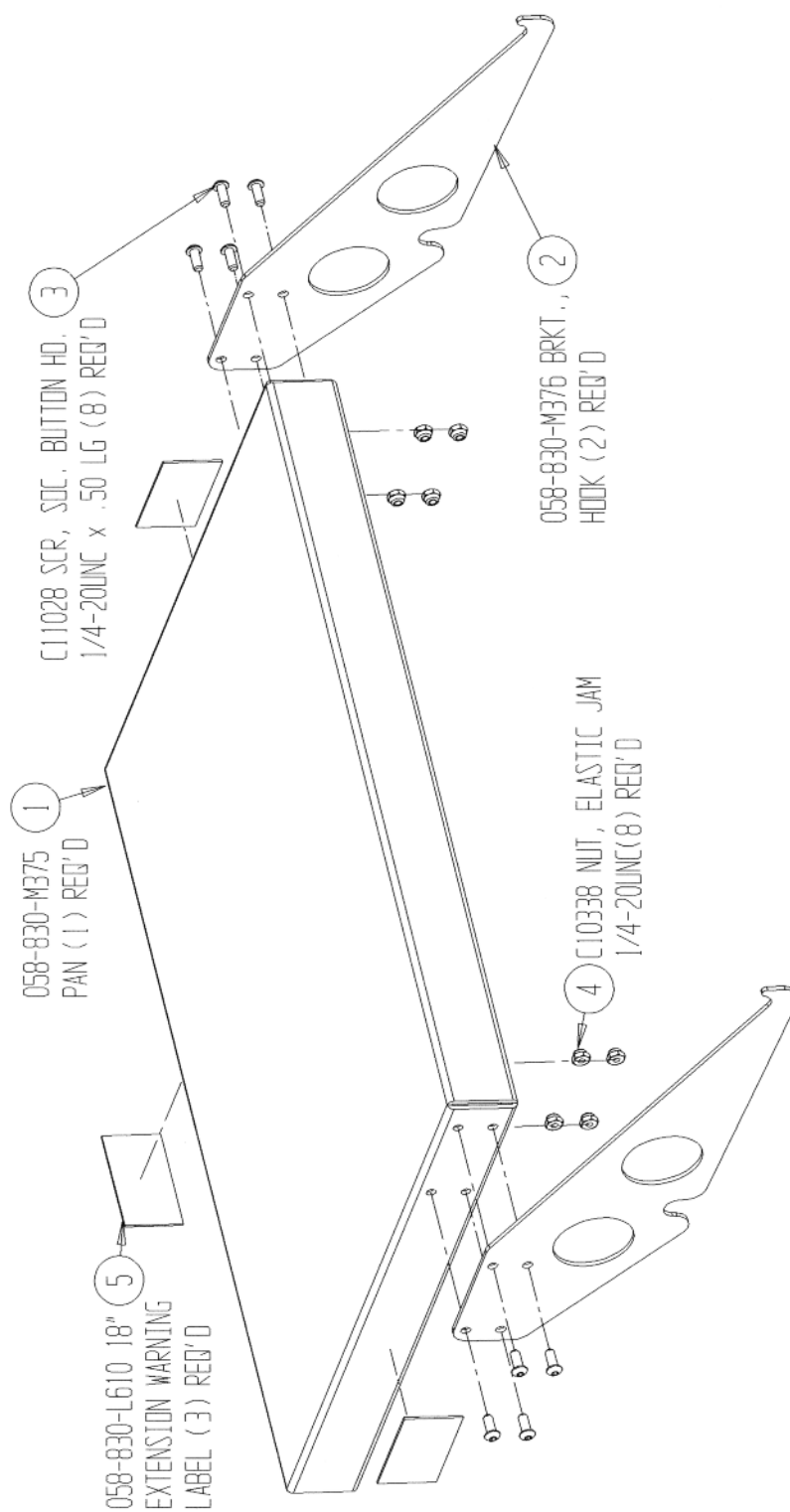


NOTES:  
1-THESE DRAWING IS FOR THE FOLLOWING:  
058-830-A200, 058-840-A200

## 058-840 PART AND ASSEMBLY ILLUSTRATIONS

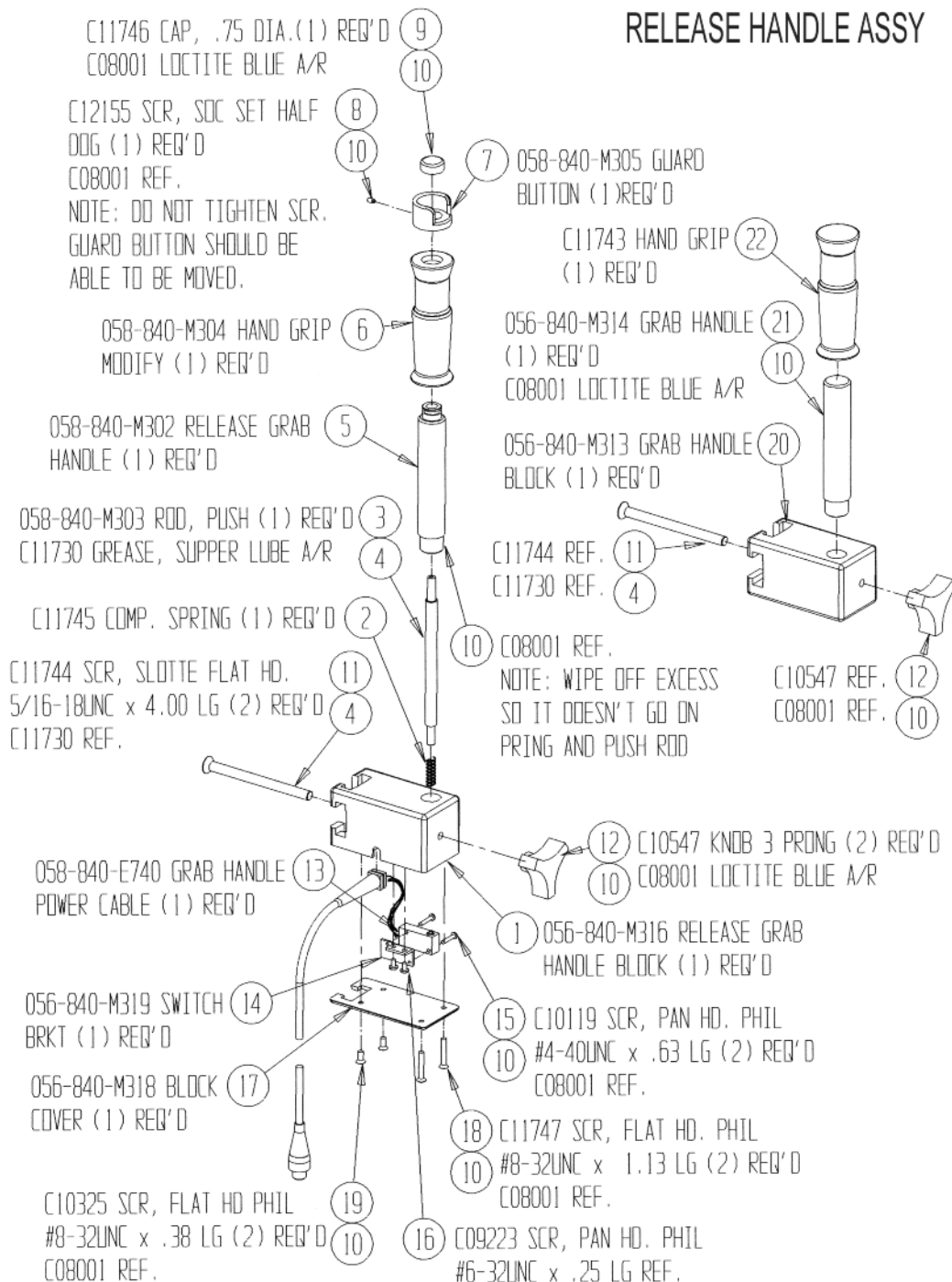


## 18" NON-VIEWING EXTENSION ASSY





## RELEASE HANDLE ASSY



# NOTES

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*Certified Quality Management System*

# BIODEX

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